

1 .TITLE 751117
2 // REDAC SOFTWARE LIMITED
3 //
4 // 1 SUITE : P.C.B. LAYOUT
5 // 2 PROGRAM TITLE : REDAL3 MK5
6 // 3 ROUTINE TITLE : MANRUT
7 //
8 // THIS PROGRAM SOURCE FILE IS SUPPLIED IN CONFIDENCE TO THE
9 // CUSTOMER: THE CONTENTS OR DETAILS OF ITS OPERATION MAY
10 // ONLY BE DISCLOSED TO PERSONS EMPLOYED BY THE CUSTOMER WHO
11 // REQUIRE A KNOWLEDGE OF THE SOFTWARE CODING TO CARRY OUT
12 // THEIR JOB. DISCLOSURE TO ANY OTHER PERSON MUST HAVE PRIOR
13 // AUTHORISATION FROM THE DIRECTORS OF REDAC SOFTWARE LIMITED.
14 //
15 // 4 AUTHOR:
16 // 5 DATE : DEC 1974
17 //
18 // 6 PURPOSE: ENABLE MANUAL LAYOUT OF ROUTES AND COPPER.
19 //
20 // 7 CALLING SEQUENCE AND DESCRIPTION OF ARGUMENTS
21 //
22 // CALL MANRUT(COMP(1),CONN(1),EOCONN,LIB(1),ROUTE(1),EROUT,
23 // COPPER(1),EOCOPP,ZYDE,N)
24 //
25 // COMP COMPONENTS ARRAY
26 // CONN CONNECTIONS ARRAY
27 // LIB LIBRARY ARRAY
28 // ROUTE ROUTES ARRAY
29 // COPPER COPPER ARRAY
30 // EOCNN FORTRAN TYPE POINTER TO FIRST FREE WORD IN CONN
31 // EROUT " " " " " " " " ROUTE
32 // EOCOPP " " " " " " " " COPPER
33 // ZYDE CURRENT WORKING SIDE OF BOARD
34 // N
35 //
36 // 8 LOCAL GLOBALS
37 // .GLOBL MANRUT
38 //
39 // 9 EXTERNAL GLOBALS
40 // .GLOBL X0, Y0, XU, YU, SCALE, BUTTON, MF, 101, DFLPK, DRAWCP, READRT, WRITRT
41 // .GLOBL SUBNOD, MESS1, XPEN, YPEN, DA, SCALUP, SWOPSD, DFAD, DFDEL
42 // .GLOBL IWIDTH, IGRID, TRACK, DFADDR
43 //
44 // 10 COMMON AREAS
45 // PUSBUT .CBD PUSBUT 1
46 // 00000 R 000000 A
47 // MSFLAG .CBD MSFLAG 1 /BUG9
48 //
49 // *****
50 //
51 // AMENDMENT BY MIKE FELLOWS - 5/8/75 : CURE TO BUG9
52 //

53 // OTHER ROUTINE AFFECTED - WRITRT. AMENDMENTS IDENTIFIED BY
54 // COMMENT BUG9
55 //
56 // THIS AMENDMENT CURES THE PROBLEM OF TWO POINT COPPER SHAPES
57 // BEING WRITTEN TO THE DATA STRUCTURE WHEN A COPPER SHAPE WAS
58 // REDUCED TO ZERO AREA BY 'MOVE SEG' IN 'MOD RT'. SEE THE
59 // BUG REPORT FILE FOR FURTHER DETAILS
60 //
61 // MOD #1 TO CHANGE BUTTON 3 TO SIDES 750513 /HB
62 // MOD #2 TO INSERT WINDOW IN MOD RT 751028 /HB
63 //
64 //
65 00002 R 740040 A MANRUT XX
66 00003 R 125364 E JMS* .DA
67 00004 R 600017 R JMP START1
68 00005 R 000000 A COMPAD 0 /COMPON(1)
69 00006 R 000000 A CONNAD 0 /CONNEX(1)
70 00007 R 000000 A EOCONN 0
71 00010 R 000000 A LIBAD 0 /LIB(1)
72 00011 R 000000 A ROUTAD 0 /ROUTES(1)
73 00012 R 000000 A EROUT 0
74 00013 R 000000 A COPPAD 0 /COPPER (1)
75 00014 R 000000 A EOCOPP 0
76 00015 R 000000 A ZYDE 0
77 00016 R 000000 A N 0
78 00017 R 220011 R START1 LAC* ROUTAD
79 00020 R 145275 R DZM #MFLAG /*2 *****
80 00021 R 040011 R DAC ROUTAD
81 00022 R 200006 R LAC CONNAD
82 00023 R 044047 R DAC ARG4+3
83 00024 R 044113 R DAC CPEOCP+5
84 00025 R 044015 R DAC ARG1+3
85 00026 R 044211 R DAC RTOFR+5
86 00027 R 041746 R DAC RARG6
87 00030 R 042605 R DAC WARG4
88 00031 R 723777 A AAC -1
89 00032 R 042221 R DAC CONPT / SET UP FOR SCAN
90 00033 R 360007 R TAD* EOCONN
91 00034 R 042222 R DAC ABSENC / ABS PTR TO 1ST FREE WORD IN CONN
92 00035 R 200007 R LAC EOCONN
93 00036 R 044016 R DAC ARG1+4
94 00037 R 044212 R DAC RTOFR+6
95 00040 R 041747 R DAC RARG7
96 00041 R 042606 R DAC WARG5
97 00042 R 200012 R LAC EROUT
98 00043 R 044014 R DAC ARG1+2
99 00044 R 044206 R DAC RTOFR+2
100 00045 R 041743 R DAC RARG3
101 00046 R 042604 R DAC WARG3
102 00047 R 200005 R LAC COMPAD
103 00050 R 041110 R DAC ARG3+2
104 00051 R 043427 R DAC SARG1

105 00052 R 200010 R ~~LIBAD~~
 106 00053 R 043430 R DAC SARG2
 107 00054 R 041111 R DAC ARG3+3
 108 00055 R 200014 R LAC EOCOPP
 109 00056 R 044046 R DAC ARG4+2
 110 00057 R 044110 R DAC CPEOCP+2
 111 00060 R 200015 R LAC ZYDE
 112 00061 R 044310 R DAC SYDE
 113 00062 R 145256 R DZM ARRFLG#
 114 00063 R 160001 R START DZM* MSFLAG /BUG9
 115 00064 R 220016 R LAC* N /BUG9
 116 00065 R 545365 R SAD (3
 117 00066 R 600113 R JMP DRAW5
 118 00067 R 220000 R LAC* PUSBUT
 119 00070 R 045274 R DAC MESS#
 120 00071 R 652000 A LMQ
 121 00072 R 205366 R LAC (YONE
 122 00073 R 165274 R DZM* MESS
 123 00074 R 125345 E JMS* MESS1
 124 00075 R 125335 E JMS* BUTTON
 125 00076 R 545367 R SAD (6
 126 00077 R 600105 R JMP EX1
 127 00100 R 545370 R SAD (2
 128 00101 R 601305 R JMP DELETE
 129 00102 R 545371 R SAD (4
 130 00103 R 601442 R JMP SWOP
 131 00104 R 600112 R JMP DRAW1 / DRAWALL, DRAW, CU
 132 00105 R ~~005010 A *G~~ EX1 .WRITE 10,5,0,0
 00105 R 005010 A *G CAL+5*1000 10&777
 00106 R 000011 A *G 11
 00107 R 000000 A *G 0
 *G .DEC
 00110 R 000000 A *G -0
 00111 R 620002 R JMP* MANRUT
 /
 /
 136 00112 R 045257 R DRAW1 DAC BUTT#
 137 00113 R 205256 R DRAWS5 LAC ARRFLG
 138 00114 R 740200 A SZA
 139 00115 R 125340 E JMS* DFDEL
 140 00116 R 600122 R JMP .+4
 141 00117 R 005372 R .DSA (-11
 142 00120 R 005373 R .DSA (0
 143 00121 R 001270 R .DSA BUFF3
 144 00122 R 145256 R DZM ARRFLG
 145 00123 R 145264 R DZM CRSFLG#
 146 00124 R 205374 R LAC (BUFF
 147 00125 R 044107 R DAC CPEOCP+1
 148 00126 R 044205 R DAC RTOFR1+1
 149 00127 R 145260 R DZM CFLAG#
 150 00130 R 145261 R DZM CFLAG2#
 151 00131 R 220016 R LAC* N

152 00132 R 545365 R SAD (3
 153 00133 R 601444 R JMP MODEY
 154 00134 R 205257 R LAC BUTT
 155 00135 R 545375 R SAD (5
 156 00136 R 602051 R JMP DRAWAL
 157 00137 R 545365 R SAD (3
 158 00140 R 601410 R JMP CU
 159 /
 160 /
 161 /
 162 00141 R 205274 R DRAW LAC MESS
 163 00142 R 165274 R DZM* MESS
 164 00143 R 652000 A LMQ
 165 00144 R 205376 R LAC (YTHREE
 166 00145 R 125345 E JMS* MESS1
 167 00146 R 205377 R LAC (777
 168 00147 R 044236 R DAC XCROSS
 169 00150 R 044237 R DAC YCROSS
 170 00151 R 145270 R DZM FALG
 171 00152 R 445270 R ISZ FALG
 172 00153 R 104240 R JMS KEYS
 173 00154 R 045272 R DAC KEYVAL# / STATUS OF BUTTONS
 174 00155 R 104214 R JMS CROSS / POSITION CROSS
 175 00156 R 104240 R JMS KEYS
 176 00157 R 245272 R XOR KEYVAL
 177 00160 R 741200 A SNA
 178 00161 R 600155 R JMP .-4 / NO BUTTON HIT YET
 179 00162 R 245272 R XOR KEYVAL
 180 00163 R 045272 R DAC KEYVAL / NEW STATUS
 181 00164 R 125341 E JMS* DFLPK
 182 00165 R 600167 R JMP .+2
 183 00166 R 005370 R .DSA (2 / LOOK FOR CONNEXION
 184 00167 R 741100 A SPA
 185 00170 R 600063 R JMP START
 186 00171 R 045266 R DAC DISFAD / FOUND ONE
 187 00172 R 225266 R LAC* DISFAD / POINTER TO D.S.
 188 00173 R 741000 A SKP
 189 00174 R 740040 A FINCON XX
 190 00175 R 723776 A AAC -2
 191 00176 R 045311 R DAC SCAN
 192 00177 R 744000 A CLL
 193 00200 R 225311 R LAC* SCAN
 194 00201 R 640511 A LRS 11
 195 00202 R 045305 R DAC PTR2# / POINTER TO OTHER COMP / 6
 196 00203 R 744010 A RCL
 197 00204 R 345305 R TAD PTR2
 198 00205 R 744010 A RCL / *6
 199 00206 R 340005 R TAD COMPAD
 200 00207 R 045267 R DAC DISNO / ABS ADDR OF COMP.2
 201 00210 R 225267 R LAC* DISNO / REL. PTR TO CONN
 202 00211 R 340006 R TAD CONNAD
 203 00212 R 723777 A AAC -1

204 00213 R 723003 A F# AAC 3 ~~LOOK FOR OTHER END CONNEXION~~
205 00214 R 045265 R DAC CSCAN#
206 00215 R 225265 R LAC* CSCAN
207 00216 R 505400 R AND (77777
208 00217 R 545266 R SAD DISFAD
209 00220 R 600223 R JMP .+3 / FOUND IT
210 00221 R 205265 R LAC CSCAN
211 00222 R 600213 R JMP FIND / NOT THIS TIME
212 00223 R 205265 R LAC CSCAN
213 00224 R 723776 A AAC -2
214 00225 R 045265 R DAC CSCAN
215 00226 R 744000 A CLL
216 00227 R 225265 R LAC* CSCAN
217 00230 R 640511 A LRS 11
218 00231 R 045304 R DAC PTR1# / POINTER TO COMP1 / 6
219 00232 R 205260 R LAC CFLAG
220 00233 R 740200 A SZA
221 00234 R 620174 R JMP* FINCON
222
223
224
225 00235 R 225311 R LAC* SCAN
226 00236 R 640506 A LRS 6
227 00237 R 505401 R AND (7
228 00240 R 565344 E SAD* IWIDTH
229 00241 R 600274 R JMP NOCHEK /SAME WIDTH
230 00242 R 101047 R JMS DISWID
231 00243 R 205274 R LAC MESS
232 00244 R 652000 A LMQ
233 00245 R 205402 R LAC CYNINE
234 00246 R 165274 R DZMK MESS
235 00247 R 125345 E JMS* MESS1
236 00250 R 125335 E JMS* BUTTON
237 00251 R 545367 R SAD (6
238 00252 R 600271 R JMP NOCHEK-3
239 00253 R 545403 R SAD (1
240 00254 R 741000 A SKP
241 00255 R 600250 R JMP .-5
242 00256 R 225344 E LAC* IWIDTH
243 00257 R 660706 A ALSS 6
244 00260 R 652000 A LMQ
245 00261 R 225311 R LAC* SCAN
246 00262 R 505404 R AND (777077
247 00263 R 640002 A OMQ
248 00264 R 065311 R DAC* SCAN
249 00265 R 225265 R LAC* CSCAN
250 00266 R 505404 R AND (777077
251 00267 R 640002 A OMQ
252 00270 R 065265 R DAC* CSCAN
253 00271 R 205405 E LAC (JMS* DFDEL
254 00272 R 041173 R DAC CALL2+1
255 00273 R 101172 R JMS CALL2
/ NOW GET X+Y POSITIONS FOR BOTH PADS
/

256 00274 R 104240 R NOCHEK JMS KEYS
257 00275 R 045272 R DAC KEYVAL
258 00276 R 104214 R JMS CROSS
259 00277 R 225311 R LAC* SCAN
260 00300 R 505406 R AND (77
261 00301 R 045276 R DAC NOD# / PIN NO. ON COMPT.1
262 00302 R 205304 R LAC PTR1
263 00303 R 101102 R JMS XY
264 00304 R 045325 R DAC X1 / D.S.
265 00305 R 641002 A LACQ
266 00306 R 045332 R DAC Y1 / UNITS
267 00307 R 225407 R LAC* (16
268 00310 R 640511 A LRS 11
269 00311 R 505365 R AND (3
270 00312 R 045313 R DAC SIDE1# / PAD SIDE FOR COMPT 1
271
272 //
273 00313 R 445311 R ISZ SCAN
274 00314 R 225311 R LAC* SCAN
275 00315 R 505406 R AND (77
276 00316 R 045276 R DAC NOD / PIN NO. ON COMPT.2.
277 00317 R 445311 R ISZ SCAN
278 00320 R 205305 R LAC PTR2
279 00321 R 101102 R JMS XY
280 00322 R 045326 R DAC X2 / D.S.
281 00323 R 641002 A LACQ
282 00324 R 045333 R DAC Y2 / UNITS
283 00325 R 225407 R LAC* (16
284 00326 R 640511 A LRS 11
285 00327 R 505365 R AND (3
286 00330 R 045314 R DAC SIDE2# / PAD SIDE FOR COMPT 2.
287
288 // FIND WHICH END IS NEARER CROSS
289 //
290 00331 R 204236 R LAC XCROSS
291 00332 R 740031 A TCA
292 00333 R 345325 R TAD X1 / WORKING IN D.S UNITS
293 00334 R 741100 A SPA
294 00335 R 740031 A TCA
295 00336 R 045273 R DAC LONG1#
296 00337 R 204237 R LAC YCROSS
297 00340 R 740031 A TCA
298 00341 R 345332 R TAD Y1
299 00342 R 741100 A SPA
300 00343 R 740031 A TCA
301 00344 R 345273 R TAD LONG1
302 00345 R 045273 R DAC LONG1 / DISTANCE TO PAD1
303 00346 R 204236 R LAC XCROSS
304 00347 R 740031 A TCA
305 00350 R 345326 R TAD X2
306 00351 R 740100 A SMA
307 00352 R 740031 A TCA

308 00353 R 345273 R TAD LONG1
309 00354 R 045273 R DAC LONG1
310 00355 R 204237 R LAC YCROSS
311 00356 R 740031 A TCA
312 00357 R 345333 R TAD Y2
313 00360 R 740100 A SMA
314 00361 R 740031 A TCA
315 00362 R 345273 R TAD LONG1 / DISTANCE 1 - DISTANCE2
316 00363 R 740100 A SMA
317 00364 R 101056 R JMS SWOP1 / NEARER PIN2
318
319
320

321 00365 R 145320 R ENTRY DZM TYPE
322 00366 R 205374 R LAC (BUFF
323 00367 R 065410 R DAC* (17
324 00370 R 205325 R LAC X1
325 00371 R 060017 A DAC* 17
326 00372 R 205332 R LAC Y1
327 00373 R 060017 A DAC* 17
328 00374 R 144653 R DZM BUFF
329 00375 R 444653 R ISZ BUFF / BUFF=1
330 00376 R 101221 R JMS ARROW
331 00377 R 205260 R LAC CFLAG
332 00400 R 740200 A SZA
333 00401 R 600410 R JMP LOOP1 / START ANY SIDE IF COPPER
334 00402 R 205313 R LAC SIDE1
335 00403 R 741200 A SNA
336 00404 R 600410 R JMP LOOP1 / ZERO-SO CAN START ANY SIDE
337 00405 R 564310 R SAD* SYDE
338 00406 R 741000 A SKP
339 00407 R 104305 R JMS SWOPIT / ROUTE STARTS ON WRONG SIDE
340
341

342 00410 R 165274 R LOOP1 DZM* MESS
343 00411 R 205274 R LAC MESS
344 00412 R 652000 A LMQ
345 00413 R 205411 R LAC (YFOUR
346 00414 R 125345 E JMS* MESS1
347 00415 R 100751 R JMS CROSS1
348 00416 R 104240 R JMS KEYS
349 00417 R 245272 R XOR KEYVAL
350 00420 R 741200 A SNA
351 00421 R 600415 R JMP .-4 / NO BUTTON - CARRY ON
352 00422 R 045316 R DAC STATUS#
353 00423 R 245272 R XOR KEYVAL
354 00424 R 045272 R DAC KEYVAL / NEW BUTTON STATUS
355 00425 R 205316 R LAC STATUS
356 00426 R 545412 R SAD (400000
357 00427 R 600441 R JMP CORNER / INSERT CORNER
358 00430 R 545413 R SAD (200000
359 00431 R 600476 R JMP FINISH / FINISH

360 00432 R 545414 R SAD (100000
 361 00433 R 600456 R JMP ANGLE / CHANGE TO ANGLED TRACKING
 362 00434 R 545415 R SAD (40000
 363 00435 R 600463 R JMP THRU
 364 00436 R 545416 R SAD (20000
 365 00437 R 600576 R JMP WINDOW
 366 00440 R 600570 R JMP ABORT / REPLACE CONNEX
 367 00441 R 444653 R CORNER ISZ BUFF
 368 00442 R 205053 R LAC BUFF1
 369 00443 R 545417 R SAD (37
 370 00444 R 600570 R JMP ABORT
 371 00445 R 225410 R LAC* (17
 372 00446 R 723003 A AAC 3
 373 00447 R 065410 R DAC* (17
 374 00450 R 145320 R DZM TYPE
 375 00451 R 205327 R LAC X3
 376 00452 R 045325 R DAC X1
 377 00453 R 205334 R LAC Y3
 378 00454 R 045332 R DAC Y1
 379 00455 R 600410 R JMP LOOP1
 380 00456 R 205320 R ANGLE LAC TYPE
 381 00457 R 750100 A SMA!CLA
 382 00460 R 723777 A AAC -1
 383 00461 R 045320 R DAC TYPE
 384 00462 R 600410 R JMP LOOP1
 385 00463 R 205260 R THRU LAC CFLAG
 386 00464 R 740200 A SZA
 387 00465 R 600410 R JMP LOOP1
 388 00466 R 204653 R LAC BUFF
 389 00467 R 545403 R SAD (1
 390 00470 R 741000 A SKP / FIRST SEGMENT
 391 00471 R 600474 R JMP .+3
 392 00472 R 205313 R LAC SIDE1
 393 00473 R 741200 A SNA
 394 00474 R 104305 R JMS SWOPIT
 395 00475 R 600410 R JMP LOOP1
 396 00476 R 205260 R FINISH LAC CFLAG
 397 00477 R 740200 A SZA
 398 00500 R 600507 R JMP OK
 399 00501 R 205314 R LAC SIDE2
 400 00502 R 741200 A SNA
 401 00503 R 600507 R JMP OK
 402 00504 R 564310 R SAD* SYDE
 403 00505 R 741000 A SKP
 404 00506 R 601120 R JMP ERROR / CANT FINISH THIS SIDE
 405 00507 R 205320 R OK LAC TYPE
 406 00510 R 741100 A SPA
 407 00511 R 600532 R JMP END / ANGLED
 408 00512 R 444653 R ISZ BUFF
 409 00513 R 545403 R SAD (1
 410 00514 R 600524 R JMP XSEG
 411 00515 R 224310 R LAC* SYDE

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412 00516 R 060017 A  DMC* 17
413 00517 R 205325 R  LAC X1
414 00520 R 060017 A  DAC* 17
415 00521 R 205333 R  LAC Y2
416 00522 R 060017 A  DAC* 17
417 00523 R 600532 R  JMP END
418 00524 R 224310 R  XSEG LAC* SYDE
419 00525 R 060017 A  DAC* 17
420 00526 R 205326 R  LAC X2
421 00527 R 060017 A  DAC* 17
422 00530 R 205332 R  LAC Y1
423 00531 R 060017 A  DAC* 17
424 00532 R 224310 R  END LAC* SYDE
425 00533 R 060017 A  DAC* 17
426 00534 R 205326 R  LAC X2
427 00535 R 060017 A  DAC* 17
428 00536 R 205333 R  LAC Y2
429 00537 R 060017 A  DAC* 17
430 00540 R 444653 R  THTSAL ISZ BUFF
431 00541 R 145270 R  DZM FALG
432 00542 R 103761 R  JMS PACK
433 00543 R 205260 R  LAC CFLAG
434 00544 R 741200 A  SNA
435 00545 R 600557 R  JMP DELCR
436 00546 R 205053 R  LAC BUFF1
437 00547 R 545370 R  SAD (2
438 00550 R 741000 A  SKP
439 00551 R 600557 R  JMP DELCR
440 00552 R 104075 R  JMS GETCOP
441 00553 R 205310 R  GILL LAC RUTPTR
442 00554 R 652000 A  LMQ
443 00555 R 205365 R  LAC (3
444 00556 R 125342 E  JMS* DRAWCP /DELETE FROM DISPLAY FILE
445 00557 R 205256 R  DELCR LAC ARRFLG
446 00560 R 740200 A  SZA
447 00561 R 125340 E  JMS* DFDEL
448 00562 R 600566 R  JMP .+4
449 00563 R 005372 R  .DSA (-11
450 00564 R 005373 R  .DSA (0
451 00565 R 001270 R  .DSA BUFF3
452 00566 R 145256 R  DZM ARRFLG
453 00567 R 600063 R  JMP START
454 00570 R 205260 R  ABORT LAC CFLAG
455 00571 R 740200 A  SZA
456 00572 R 600553 R  JMP GILL
457 00573 R 205267 R  LAC DISNO / REPLACE COMPONENT
458 00574 R 125342 E  JMS* DRAWCP
459 00575 R 600557 R  JMP DELCR
460
461 00576 R 145270 R  /WINDOW DZM FALG
462 00577 R 444653 R  ISZ BUFF
463 00600 R 225410 R  LAC* (17

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464 00601 R 045271 R DAC IR17
465 00602 R 103761 R JMS PACK
466 .READ 10,6,XCROSS,0 /GET SCREEN POS OF CROSS
00603 R 006010 A *G CAL+6*1000 10&777
00604 R 000010 A *G 10
00605 R 004236 R *G XCROSS
*G .DEC
00606 R 000000 A *G -0
467 00607 R 204236 R LAC XCROSS
468 00610 R 345420 R TAD (-777
469 00611 R 100727 R JMS DIV2 /DIVIDE BY SCALE
470 00612 R 045253 R DAC ADDR#
471 00613 R 365360 E TAD* X0
472 00614 R 065360 E DAC* X0
473 00615 R 205253 R LAC ADDR
474 00616 R 365357 E TAD* YU
475 00617 R 065357 E DAC* YU
476 00620 R 204237 R LAC XCROSS
477 00621 R 345420 R TAD (-777
478 00622 R 100727 R JMS DIV2
479 00623 R 045253 R DAC ADDR
480 00624 R 365363 E TAD* Y0
481 00625 R 065363 E DAC* Y0
482 00626 R 205253 R LAC ADDR
483 00627 R 365362 E TAD* YU
484 00630 R 065362 E DAC* YU
485 / NOW CHECK WINDOW LIMITS
486 /
487 00631 R 225357 E LAC* XU
488 00632 R 345421 R TAD (-2000
489 00633 R 741100 A SPA
490 00634 R 600644 R JMP .+10
491 00635 R 205422 R LAC (-1777
492 00636 R 065357 E DAC* XU
493 00637 R 100727 R JMS DIV2
494 00640 R 740031 A TCA
495 00641 R 345422 R TAD (-1777
496 00642 R 065360 E DAC* X0
497 00643 R 600653 R JMP .+10
498 00644 R 225360 E LAC* X0
500 00645 R 740100 A SMA
501 00646 R 600653 R JMP .+5
502 00647 R 165360 E DZMK* X0
503 00650 R 205422 R LAC (-1777
504 00651 R 100727 R JMS DIV2
505 00652 R 065357 E DAC* XU
506 00653 R 225362 E LAC* YU
507 00654 R 345421 R TAD (-2000
508 00655 R 741100 A SPA
509 00656 R 600666 R JMP .+10
510 00657 R 205422 R LAC (-1777

511 00660 R 065362 E ~~DAC* YU~~
512 00661 R 100727 R JMS DIV2
513 00662 R 740031 A TCA
514 00663 R 345422 R TAD (1777
515 00664 R 065363 E DAC* Y0
516 00665 R 600675 R JMP REDROR /REDRAW PICTURE
517 00666 R 225363 E LAC* Y0
518 00667 R 740100 A SMA
519 00670 R 600675 R JMP REDROR
520 00671 R 165363 E DZM* Y0
521 00672 R 205422 R LAC (1777
522 00673 R 100727 R JMS DIV2
523 00674 R 065362 E DAC* YU
524 00675 R 750000 A REDROR CLA
525 00676 R 125342 E JMS* DRAWCP
526 00677 R 205275 R LAC MFLAG /*2 *****
527 00700 R 740200 A SZA /*2 *****
528 00701 R 601444 R JMP MODFY ~~AC~~ /*2 *****
529 00702 R 205260 R LAC CFLAG
530 00703 R 741200 A SNA
531 00704 R 600707 R JMP .+3
532 00705 R 104075 R JMS GETCOP
533 00706 R 600712 R JMP .+4
534 00707 R 104175 R JMS DESTRY
535 00710 R 225311 R LAC* SCAN
536 00711 R 045266 R DAC DISFAD
537 00712 R 445270 R ISZ FALG
538 00713 R 103761 R JMS PACK
539 00714 R 204653 R LAC BUFF
540 00715 R 723777 A AAC -1
541 00716 R 044653 R DAC BUFF
542 00717 R 205271 R LAC IR17
543 00720 R 065410 R DAC* (17
544 00721 R 101221 R JMS ARROW
545 00722 R 205377 R LAC (1777
546 00723 R 044236 R DAC XCROSS
547 00724 R 044237 R DAC YCROSS
548 00725 R 145264 R DZM CRSFLG
549 00726 R 600410 R JMP LOOP1
550 00727 R 740040 A DIV2 XX /SIGNED DIVISION BY SCALE
551 00730 R 145315 R DZM SIGN*
552 00731 R 740100 A SMA
553 00732 R 600735 R JMP .+3
554 00733 R 740031 A TCA
555 00734 R 445315 R ISZ SIGN
556 00735 R 652000 A LMQ
557 00736 R 225350 E LAC* SCALE
558 00737 R 040742 R DAC .+3
559 00740 R 754000 A CLL!CLA
560 00741 R 640323 A DIV
561 00742 R 000000 A 0
562 00743 R 205315 R LAC SIGN

563 00744 R 740020 A RAR
564 00745 R 641002 A LACQ
565 00746 R 741400 A SZL
566 00747 R 740031 A TCA
567 00750 R 620727 R JMP* DIV2
568 /
569 /
570 /
571 /
572 00751 R 740040 A CROSS1 XX
573 00752 R 225410 R LAC* (17
574 00753 R 045271 R DAC IR17
575 00754 R 104214 R JMS CROSS
576 00755 R 204236 R LAC XCROSS
577 00756 R 045327 R DAC X3#
578 00757 R 204237 R LAC YCROSS
579 00760 R 045334 R DAC Y3#
580 00761 R 205320 R LAC TYPE
581 00762 R 741100 A SPA
582 00763 R 601011 R JMP TAG /ANGLED
583 00764 R 145320 R DZM TYPE
584 00765 R 205325 R LAC X1
585 00766 R 740031 A TCA
586 00767 R 345327 R TAD X3
587 00770 R 741100 A SPA
588 00771 R 740031 A TCA
589 00772 R 045273 R DAC LONG1 /MOD(X3-X1)
590 00773 R 205332 R LAC Y1
591 00774 R 740031 A TCA
592 00775 R 345334 R TAD Y3
593 00776 R 740100 A SMA
594 00777 R 740031 A TCA
595 01000 R 345273 R TAD LONG1 /MOD(X3-X1)-MOD(Y3-Y1)
596 01001 R 741100 A SPA
597 01002 R 601007 R JMP .+5
598 01003 R 205332 R LAC Y1 /DX .GE. DY
599 01004 R 045334 R DAC Y3
600 01005 R 445320 R ISZ TYPE
601 01006 R 601011 R JMP TAG
602 01007 R 205325 R LAC X1
603 01010 R 045327 R DAC X3
604 01011 R 204653 R TAG LAC BUFF /NO. OF POINTS
605 01012 R 744010 A RCL
606 01013 R 344653 R TAD BUFF /NO. OF WORDS
607 01014 R 345374 R TAD (BUFF
608 01015 R 723777 A AAC -1
609 01016 R 065407 R DAC* (16
610 01017 R 224310 R LAC* SYDE
611 01020 R 060016 A DAC* 16
612 01021 R 205327 R LAC X3
613 01022 R 060016 A DAC* 16
614 01023 R 205334 R LAC Y3

615 01024 R 060016 A ~~DAC*~~ 16
616 01025 R 444653 R ISZ BUFF
617 01026 R 103761 R JMS PACK
618 01027 R 204653 R LAC BUFF
619 01030 R 723777 A AAC -1
620 01031 R 044653 R DAC BUFF
621 01032 R 205271 R LAC IR17
622 01033 R 065410 R DAC* (17
623 01034 R 620751 R JMP* CROSS1
624
625
626
627
628
629 01035 R 740040 A GETWID XX
630 01036 R 750030 A CLA!IAC
631 01037 R 045260 R DAC CFLAG
632 01040 R 225266 R LAC* DISFAD
633 01041 R 100174 R JMS FINCON
634 01042 R 225311 R LAC* SCAN
635 01043 R 640506 A LRS 6
636 01044 R 505401 R AND (7
637 01045 R 101047 R JMS DISWID
638 01046 R 621035 R JMP* GETWID
639
640
641
642
643
644 01047 R 740040 A DISWID XX
645 01050 R 723060 A AAC 60
646 01051 R 041214 R DAC WIDSTO
647 01052 R 205423 E LAC (JMS* DFAD
648 01053 R 041173 R DAC CALL2+1
649 01054 R 101172 R JMS CALL2
650 01055 R 621047 R JMP* DISWID
651
652
653
654
655
656 01056 R 740040 A SWOP1 XX
657 01057 R 205325 R LAC X1
658 01060 R 652000 A LMQ
659 01061 R 205326 R LAC X2
660 01062 R 045325 R DAC X1
661 01063 R 641002 A LACQ
662 01064 R 045326 R DAC X2
663 01065 R 205332 R LAC Y1
664 01066 R 652000 A LMQ
665 01067 R 205333 R LAC Y2
666 01070 R 045332 R DAC Y1

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667 01071 R 641002 A LACQ
668 01072 R 045333 R DAC Y2
669 01073 R 205313 R LAC SIDE1
670 01074 R 652000 A LMQ
671 01075 R 205314 R LAC SIDE2
672 01076 R 045313 R DAC SIDE1
673 01077 R 641002 A LACQ
674 01100 R 045314 R DAC SIDE2
675 01101 R 621056 R JMP* SWOP1
676 /
677 /
678 /
679 /
680 /
681 01102 R 740040 A XY XX
682 01103 R 045303 R DAC PPTR#
683 01104 R 125352 E JMS* SUBNOD
684 01105 R 601114 R JMP .+7
685 01106 R 005323 R ARG3 .DSA XINC#
686 01107 R 005330 R .DSA YINC#
687 01110 R 000000 A 0
688 01111 R 000000 A 0
689 01112 R 005303 R .DSA PPTR
690 01113 R 005276 R .DSA NOD
691 01114 R 205330 R LAC YINC
692 01115 R 652000 A LMQ
693 01116 R 205323 R LAC XINC
694 01117 R 621102 R JMP* XY
695 /
696 /
697 /
698 /
699 /
700 01120 R ERROR .READ 10,6,XCROSS,0
    01120 R 006010 A *G CAL+6*1000 10&777
    01121 R 000010 A *G 10
    01122 R 004236 R *G XCROSS
        *G .DEC
    01123 R 000000 A *G -0
    01124 R 204236 R LAC XCROSS
    01125 R 345424 R TAD (144000
    01126 R 041157 R DAC BUFF2+2
    01127 R 204237 R LAC YCROSS
    01130 R 345425 R TAD (140000
    01131 R 041160 R DAC BUFF2+3
    01132 R 205423 E LAC (JMS* DFAD
    01133 R 041150 R DAC CALL+1
    01134 R 101147 R JMS CALL
    01135 R 104240 R JMS KEYS
    01136 R 245272 R XOR KEYVAL
    01137 R 741200 A SNA
    01140 R 601135 R JMP .-3

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714 01141 R 245272 R ~~KEYVAL~~ KEYVAL
715 01142 R 045272 R DAC KEYVAL
716 01143 R 205405 E LAC (JMS* DFDEL
717 01144 R 041150 R DAC CALL+1
718 01145 R 101147 R JMS CALL
719 01146 R 600410 R JMP LOOP1
720 /
721 /
722 /
723 01147 R 740040 A CALL XX
724 01150 R 740040 A XX
725 01151 R 621147 R JMP* CALL
726 01152 R 005426 R .DSA (-10
727 01153 R 005373 R .DSA (0
728 01154 R 001155 R .DSA BUFF2
729 /
730 /
731 /
732 /
733 01155 R 000014 A BUFF2 14
734 01156 R 000000 A 0
735 01157 R 000000 A 0 /XPOS
736 01160 R 000000 A 0 /YPOS
737 01161 R 211400 A 211400 /BLINK ON
738 01162 R 203600 A 203600 /BRIGHTNESS 7
739 01163 R 000123 A 123 /S
740 01164 R 000111 A 111 /I
741 01165 R 000104 A 104 /D
742 01166 R 000105 A 105 /E
743 01167 R 000077 A 77 /?
744 01170 R 211000 A 211000 /BLINK OFF
745 01171 R 621156 R JMP* BUFF2+1
746 /
747 01172 R 740040 A CALL2 XX
748 01173 R 740040 A XX
749 01174 R 621172 R JMP* CALL2
750 01175 R 005427 R .DSA (-12
751 01176 R 005373 R .DSA (0
752 01177 R 001200 R .DSA BUFF4
753 /
754 /
755 /
756 01200 R 000020 A BUFF4 20
757 01201 R 000000 A 0
758 01202 R 144540 A 144540
759 01203 R 140740 A 140740
760 01204 R 211400 A 211400 /BLINK ON
761 01205 R 203623 A 203623 /BRIGHTNESS 7
762 01206 R 000127 A 127 /W
763 01207 R 000111 A 111 /I
764 01210 R 000104 A 104 /D
765 01211 R 000124 A 124 /T

766 01212 R 000110 A 110 /H
 767 01213 R 000075 A 75 /=
 768 01214 R 000060 A WIDSTO 60 /WIDTH IN 7 BIT ASCII
 769 01215 R 000077 A 77 /?
 770 01216 R 211000 A 211000 /BLINK OFF
 771 01217 R 203220 A 203220
 772 01220 R 621201 R JMP* BUFF4+1
 773 /
 774 /
 775 /
 776 /
 777 01221 R 740040 A ARROW XX
 778 01222 R 205333 R LAC Y2
 779 01223 R 652000 A LMQ
 780 01224 R 205326 R LAC X2
 781 01225 R 125351 E JMS* SCALUP
 782 01226 R 723760 A AAC -20
 783 01227 R 740100 A SMA
 784 01230 R 601233 R JMP .+3
 785 01231 R 205430 R LAC (-20
 786 01232 R 601241 R JMP .+7
 787 01233 R 345421 R TAD (-2000
 788 01234 R 741100 A SPA
 789 01235 R 601240 R JMP .+3
 790 01236 R 205431 R LAC (-1757
 791 01237 R 741000 A SKP
 792 01240 R 345432 R TAD (-2020
 793 01241 R 345424 R TAD (-144000 /PX
 794 01242 R 041272 R DAC BUFF3+2
 795 /REPEAT EO Y
 796 01243 R 641002 A LACQ
 797 01244 R 723760 A AAC -20
 798 01245 R 740100 A SMA
 799 01246 R 601251 R JMP .+3
 800 01247 R 205430 R LAC (-20
 801 01250 R 601257 R JMP .+7
 802 01251 R 345421 R TAD (-2000
 803 01252 R 741100 A SPA
 804 01253 R 601256 R JMP .+3
 805 01254 R 205431 R LAC (-1757
 806 01255 R 741000 A SKP
 807 01256 R 345432 R TAD (-2020
 808 01257 R 345425 R TAD (-140000
 809 01260 R 041273 R DAC BUFF3+3
 810 01261 R 205403 R LAC (-1
 811 01262 R 045256 R DAC ARREFLG
 812 01263 R 125336 E JMS* DFAD
 813 01264 R 621221 R JMP* ARROW
 814 01265 R 005372 R .DSA (-11
 815 01266 R 005373 R .DSA (-0
 816 01267 R 001270 R .DSA BUFF3
 817 /

818
819
820
821
822
823 01270 R 000014 A BUFF3 14
824 01271 R 000000 A 0
825 01272 R 000000 A 0 /POSX
826 01273 R 000000 A 0 /POSY
827 01274 R 211400 A 211400 /BLINK ON
828 01275 R 203600 A 203600 /BRIGHTNESS 7
829 01276 R 420020 A 420020
830 01277 R 426020 A 426020
831 01300 R 434040 A 434040
832 01301 R 426020 A 426020
833 01302 R 420020 A 420020
834 01303 R 211000 A 211000 /BLINK OFF
835 01304 R 621271 R JMP* BUFF3+1
836
837
838
839
840
841
842
843 01305 R 445260 R DELETE ISZ CFLAG
844 01306 R 205274 R LAC MESS
845 01307 R 652000 A LMQ
846 01310 R 205433 R LAC (YSIX
847 01311 R 165274 R DZM* MESS
848 01312 R 125345 E JMS* MESS1
849 01313 R 125341 E JMS* DFLPK
850 01314 R 601316 R JMP .+2
851 01315 R 005434 R .DSA (14
852 01316 R 741100 A SPA
853 01317 R 600063 R JMP START /NON D.S. ITEM
854 01320 R 045266 R DAC DISFAD
855 01321 R 225266 R LAC* DISFAD
856 01322 R 740100 A SMA
857 01323 R 101035 R JMS GETWID
858 01324 R 225266 R LAC* DISFAD
859 01325 R 045311 R DAC SCAN /STORE POINTER TO D.S
860 01326 R 740100 A SMA
861 01327 R 205371 R LAC (4 /ROUTE!
862 01330 R 652000 A LMQ /COPPER!
863 01331 R 205266 R LAC DISFAD
864 01332 R 740031 A TCA
865 01333 R 125342 E JMS* DRAWCP
866 / ITEM NOW DELETED FROM DISPLAY FILE
867
868 01334 R 205274 R LAC MESS
869 01335 R 652000 A LMQ

870 01336 R 205435 R LAC (YSEVEN
871 01337 R 165274 R DZM* MESS
872 01340 R 125345 E JMS* MESS1 /HIT BUTTON,6 TO RESTORE ITEM
873 01341 R 205405 E LAC (JMS* DFDEL
874 01342 R 041173 R DAC CALL2+1
875 01343 R 125335 E JMS* BUTTON
876 01344 R 545367 R SAD (6
877 01345 R 601363 R JMP REPLAC /DELETED WRONG ITEM OR CHANGED MIND
878 01346 R 205311 R LAC SCAN
879 01347 R 741100 A SPA
880 01350 R 601354 R JMP .+4
881 01351 R 104144 R JMS GETRUT
882 01352 R 101172 R JMS CALL2
883 01353 R 600063 R JMP START
884 01354 R 340013 R TAD COPPAD
885 01355 R 740031 A TCA
886 01356 R 740030 A IAC
887 01357 R 045310 R DAC RUTPTR
888 01360 R 104075 R JMS GETCOP
889 01361 R 104245 R JMS UPDATE
890 01362 R 600063 R JMP START
891 01363 R 205311 R REPLAC LAC SCAN
892 01364 R 741100 A SPA
893 01365 R 601377 R JMP CU1 /COPPER
894 01366 R 101172 R JMS CALL2
895 01367 R 225311 R LAC* SCAN
896 01370 R 505400 R AND (??????
897 01371 R 045266 R DAC DISFAD
898 01372 R 205311 R LAC SCAN
899 01373 R 100174 R JMS FINCON
900 01374 R 205267 R LAC DISNO
901 01375 R 125342 E JMS* DRAWCP
902 01376 R 600063 R JMP START
903 01377 R 205266 R CU1 LAC DISFAD
904 01400 R 723777 A AAC -1
905 01401 R 045266 R DAC DISFAD
906 01402 R 205436 R LAC (235177
907 01403 R 065266 R DAC* DISFAD
908 01404 R 205311 R LAC SCAN
909 01405 R 445266 R ISZ DISFAD
910 01406 R 065266 R DAC* DISFAD
911 01407 R 600063 R JMP START
912 /
913 /
914 /
915 01410 R 104240 R CU JMS KEYS
916 01411 R 045272 R DAC KEYVAL /STATUS OF BUTTONS
917 01412 R 205274 R LAC MESS
918 01413 R 652000 A LMQ
919 01414 R 205437 R LAC (YEIGHT
920 01415 R 165274 R DZM* MESS
921 01416 R 125345 E JMS* MESS1 /PLACE CROSS,HIT BUTTON,6 TO EXIT

922 01417 R 104214 R ~~JMS~~ CROSS
923 01420 R 104240 R ~~JMS~~ KEYS
924 01421 R 245272 R XOR KEYVAL
925 01422 R 741200 A SNA
926 01423 R 601417 R JMP .-4
927 01424 R 545440 R SAD (10000
928 01425 R 600063 R JMP START /6 SO EXIT
929 01426 R 245272 R XOR KEYVAL
930 01427 R 045272 R DAC KEYVAL
931 01430 R 445260 R ISZ CFLAG /SET TO INDICATE COPPER
932 01431 R 204236 R LAC XCROSS
933 01432 R 045325 R DAC X1
934 01433 R 045326 R DAC X2
935 01434 R 204237 R LAC YCROSS
936 01435 R 045332 R DAC Y1
937 01436 R 045333 R DAC Y2 /START AND FINISH POINT
938 01437 R 145270 R DZM FALG
939 01440 R 445270 R ISZ FALG
940 01441 R 600365 R JMP ENTRY
941 /
942 /
943 /
944 /
945 01442 R 104305 R SWOP JMS SWOP IT
946 01443 R 600063 R JMP START
947 /
948 /
949 /
950 01444 R 125354 E MODFY JMS* TRACK
951 01445 R 601451 R JMP .+4
952 01446 R 005441 R .DSA (764
953 01447 R 005441 R .DSA (764
954 01450 R 005442 R .DSA (-1
955 01451 R 160001 R DZM* MSFLAG /BUG9
956 01452 R 220000 R LAC* PUSBUT
957 01453 R 045274 R DAC MESS
958 01454 R 205274 R LAC MESS
959 01455 R 165274 R DZM* MESS
960 01456 R 652000 A IMQ
961 01457 R 205443 R LAC (YELEVN
962 01460 R 125345 E JMS* MESS1
963 01461 R 125335 E JMS* BUTTON
964 01462 R 545375 R SAD (5
965 01463 R 603436 R JMP MODIFY
966 01464 R 545367 R SAD (6
967 01465 R 600105 R JMP EX1
968 01466 R 545365 R SAD (3 /*1 *****
969 01467 R 601442 R JMP SWOP /*1 *****
970 01470 R 723777 A AAC -1
971 01471 R 045300 R DAC N1#
972 01472 R 142252 R MANUAL DZM STOFLG
973 01473 R 205403 R LAC (1

974 01474 R 045321 R DAC VALID#
975 01475 R 045302 R DAC ONEFLG#
976 01476 R 205444 R LAC (JMP MODFY+5
977 01477 R 042520 R DAC SUBCON+4
978 01500 R 205300 R LAC N1
979 01501 R 545365 R SAD (3
980 01502 R 601505 R JMP ZWOP
981 01503 R 442252 R ISZ STOFLG /IF NOT SWOP, STOFLG IS SET
982 01504 R 741000 A SKP
983 01505 R 145300 R ZWOP DZM N1 / IF SWOP MODE, N1 AND STOFLG ARE 0
984 01506 R 165274 R DZM* MESS
985 01507 R 205274 R LAC MESS
986 01510 R 652000 A LMQ
987 01511 R 205445 R LAC (MESSA
988 01512 R 125345 E JMS* MESS1 /DISPLAY MESSAGE !SELECT ROUTE'
989 01513 R 125354 E RESTT JMS* TRACK
990 01514 R 601520 R JMP .+1+3
991 01515 R 002257 R .DSA XP
992 01516 R 002260 R .DSA YP
993 01517 R 005403 R .DSA (1 /MODE TO GET POSITION
994 01520 R 200006 R LAC CONNAD
995 01521 R 723777 A AAC -1
996 01522 R 042221 R DAC CONPT /RESET TO BEGINNING OF CONNECTIONS
997 01523 R 125341 E JMS* DFLPK
998 01524 R 601526 R JMP .+2
999 01525 R 005371 R .DSA (4 /TO SEE ROUTES
1000 01526 R 741100 A SPA /ROUTE SEEN
1001 01527 R 601451 R JMP MODFY+5 /ERROR EXIT
1002 01530 R 102453 R JMS GETCON /DF. ADDRESS IN ACC.
1003 / CONPT SET TO CONN, ROUTE READ INTO BUFF, AIR 11 SET TO 2ND PT
1004 / XNYN, XNR, YNR 1ST PT, NPTS NO OF PTS, ENBUF TO LAST PT
1005 01531 R 205300 R LAC N1
1006 01532 R 740200 A SZA /INSERT CORNER MODE
1007 01533 R 601540 R JMP NOINS
1008 01534 R 204653 R LAC BUFF
1009 01535 R 723741 A AAC -37
1010 01536 R 740100 A SMA /NOT TOO MANY CORNERS
1011 01537 R 601767 R JMP OUT /LIMIT OF NO OF CORNERS REACHED ALREADY
1012 01540 R 142234 R NOINS DZM JTHSEG
1013 01541 R 225446 R NXTSEG LAC* (11
1014 01542 R 542422 R SAD ENBUF
1015 01543 R 601614 R JMP PUTBAK / POINT NOT ON SELECTED ROUTE, TRY AGAIN
1016 01544 R 220011 A LAC* 11
1017 01545 R 042247 R DAC SIDE
1018 01546 R 442234 R ISZ JTHSEG
1019 01547 R 225446 R LAC* (11
1020 01550 R 042250 R DAC SPTER / POINTS TO 1ST WORD OF CURRENT POINT IN BUFF
1021 01551 R 220011 A LAC* 11
1022 01552 R 042244 R DAC XA
1023 01553 R 220011 A LAC* 11
1024 01554 R 042245 R DAC YA
1025 01555 R 205300 R LAC N1

1026 01556 R 741200 A
1027 01557 R 601616 R JMP MINSRT
1028 / MOVE OR DEL MODE, SO LOOK FOR PT NEAR XYP
1029 / EXAMINE PT AT BEG OF CURRENT SEG (XN, YN)
1030 01560 R 202234 R LAC JTHSEG
1031 01561 R 545403 R SAD (1
1032 01562 R 601643 R JMP NOTHIS / IGNORE 1ST SEG, COS CANNOT MOVE OR DEL 1ST PT
1033 01563 R 202257 R LAC XP
1034 01564 R 740001 A CMA
1035 01565 R 345403 R TAD (1
1036 01566 R 342240 R TAD XN
1037 01567 R 664000 A GSM
1038 01570 R 741400 A SZL
1039 01571 R 345403 R TAD (1
1040 01572 R 042255 R DAC XP1 / MOD(XN-XP)
1041 01573 R 202260 R LAC YP
1042 01574 R 740001 A CMA
1043 01575 R 345403 R TAD (1
1044 01576 R 342241 R TAD YN
1045 01577 R 664000 A GSM
1046 01600 R 741400 A SZL
1047 01601 R 345403 R TAD (1
1048 01602 R 042256 R DAC YP1 / MOD(YN-YP)
1049 01603 R 202256 R LAC YP1
1050 01604 R 345447 R TAD (-2
1051 01605 R 740100 A SMA
1052 01606 R 601643 R JMP NOTHIS / NOT NEAR YP
1053 01607 R 202255 R LAC XP1
1054 01610 R 345447 R TAD (-2
1055 01611 R 740100 A SMA
1056 01612 R 601643 R JMP NOTHIS / NOT NEAR XP
1057 01613 R 601652 R JMP GOTITT
1058 01614 R 102570 R PUTBAK JMS RRITE / WRITE ROUTE BACK FIRST
1059 01615 R 601513 R JMP RESTT / THEN LOOK AGAIN
1060 01616 R 202257 R MINSRT LAC XP
1061 01617 R 345403 R TAD (1
1062 01620 R 042232 R DAC XX1
1063 01621 R 345447 R TAD (-2
1064 01622 R 042230 R DAC XX
1065 01623 R 202260 R LAC YP
1066 01624 R 042231 R DAC YY
1067 01625 R 042233 R DAC YY1
1068 01626 R 102636 R JMS XOVER / SEE IF HORIZ LINE 2 LONG THRO XYP CUTS SEG
1069 01627 R 740200 A SZA
1070 01630 R 601652 R JMP GOTITT / YES, CROSSES
1071 01631 R 202257 R LAC XP
1072 01632 R 042230 R DAC XX
1073 01633 R 042232 R DAC XX1
1074 01634 R 442233 R ISZ YY1
1075 01635 R 202260 R LAC YP
1076 01636 R 345442 R TAD (-1
1077 01637 R 042231 R DAC YY

1078 01640 R 102636 R JMS XOVER / SEE IF VERT LINE 2 LONG THRO XYPY CROSSES SEG
1079 01641 R 740200 A SZA
1080 01642 R 601652 R JMP GOTITT / YES IT DOES
1081 01643 R 202244 R NOTHIS LAC XA
1082 01644 R 042240 R DAC XN
1083 01645 R 202245 R LAC YA
1084 01646 R 042241 R DAC YN
1085 01647 R 202247 R LAC SIDE
1086 01650 R 042253 R DAC OTHSD
1087 01651 R 601541 R JMP NXTSEG / GET NEXT POINT FROM BUFF
1088 01652 R 145321 R GOTITT DZM VALID
1089 01653 R 205300 R LAC N1
1090 01654 R 740200 A SZA
1091 01655 R 601673 R JMP MVDEL
1092 01656 R 202252 R LAC STOFLG
1093 01657 R 740200 A SZA
1094 01660 R 601671 R JMP PUTIN
1095 / SWOPSIDE MODE
1096 01661 R 103320 R JMS EGGETS / SEE IF SEG CONNECTED TO SINGLE SIDED PAD
1097 01662 R 602032 R JMP UGH / IT IS, SO CANT SWOP
1098 01663 R 202247 R LAC SIDE
1099 01664 R 545370 R SAD (-2
1100 01665 R 750000 A CLA
1101 01666 R 345403 R TAD (-1 / OPPOSITE TO SIDE
1102 01667 R 062250 R DAC* SPTER / WRITE INTO BUFF
1103 01670 R 601767 R JMP OUT / DRAW, WRITE AND EXIT
1104 01671 R 102611 R PUTIN JMS RUTGAP / FORMS 3 WORD GAP IN BUFF
1105 01672 R 601706 R JMP MLOOP / NOW INSERT PT IN GAP, AND MOVE IT
1106 01673 R 202250 R MVDEL LAC SPTER
1107 01674 R 345450 R TAD (-3
1108 01675 R 042250 R DAC SPTER
1109 01676 R 205300 R LAC N1
1110 01677 R 545403 R SAD (-1
1111 01700 R 601706 R JMP MLOOP / MOVE CORNER
1112 01701 R 202247 R LAC SIDE / DELETE MODE
1113 01702 R 542253 R SAD OTHSD
1114 01703 R 741000 A SKP
1115 01704 R 602032 R JMP UGH / CANT DELETE CORNER, COS IT IS A PT HOLE
1116 01705 R 601771 R JMP COPYIT
1117 01706 R 165274 R MLOOP DZM* MESS
1118 01707 R 205274 R LAC MESS
1119 01710 R 652000 A LMQ
1120 01711 R 205451 R LAC (MESSD / #2 *****
1121 01712 R 125345 E JMS* MESS1 / DISPLAY MESSAGE 'BUTTON TO RELEASE'
1122 01713 R 703032 A RELES RS2+10
1123 01714 R 505452 R AND (770000
1124 01715 R 045272 R DAC KEYVAL# / BUTTON SETTINGS
1125 01716 R 125354 E LOOPM JMS* TRACK
1126 01717 R 601723 R JMP .+1+3
1127 01720 R 002244 R .DSA XA
1128 01721 R 002245 R .DSA YA
1129 01722 R 005403 R .DSA (-1 /READ MODE

1130 01723 R 202250 R LAC SPTR
 1131 01724 R 065446 R DAC* (11
 1132 01725 R 202244 R LAC XA
 1133 01726 R 060011 A DAC* 11
 1134 01727 R 202245 R LAC YA
 1135 01730 R 060011 A DAC* 11
 1136 01731 R 220012 R LAC* EOROUT
 1137 01732 R 045310 R DAC RUTPTR /FOR READRT CALL
 1138 01733 R 340011 R TAD ROUTAD
 1139 01734 R 723777 A AAC -1
 1140 01735 R 045306 R DAC RARG10* /FOR READRT CALL
 1141 01736 R 102000 R JMS DROR /TO WRITE ROUTE AND DRAW IT
 1142 01737 R 125347 E JMS* READRT /READ OUT ROUTE DESTRUCTIVELY
 1143 01740 R 601750 R JMP .+1+7
 1144 01741 R 005306 R RARG1 .DSA RARG10 /ROUTES(POINTER)
 1145 01742 R 002264 R .DSA CROSSS
 1146 01743 R 000000 A RARG3 0 /EOROUT
 1147 01744 R 005373 R .DSA (0 /DEST. INDICATOR
 1148 01745 R 005310 R .DSA RUTPTR
 1149 01746 R 000000 A RARG6 0
 1150 01747 R 000000 A RARG7 0
 1151 01750 R 703032 A RS2+10
 1152 01751 R 505452 R AND (770000 /BUTTON SETTINGS
 1153 01752 R 245272 R XOR KEYVAL
 1154 01753 R 741200 A SNA /CHANGED
 1155 01754 R 601716 R JMP LOOPM
 1156 01755 R 045316 R DAC STATUS /*2
 1157 01756 R 245272 R XOR KEYVAL /*2
 1158 01757 R 045272 R DAC KEYVAL /*2
 1159 01760 R 205316 R LAC STATUS /*2
 1160 01761 R 545416 R SAD (2000 /*2
 1161 01762 R 601764 R JMP .+2 /*2
 1162 01763 R 601767 R JMP OUT /*2
 1163 01764 R 445275 R ISZ MFLAG /*2
 1164 01765 R 102000 R JMS DROR /*2 *****
 1165 01766 R 600576 R JMP WINDOW + 5 /*2 760414
 1166 01767 R 102000 R OUT JMS DROR /WRITE IN ROUTE AND DRAW IT
 1167 01770 R 601451 R JMP MODFY+5 /EXIT
 1168 01771 R 202250 R COPYIT LAC SPTR
 1169 01772 R 065446 R DAC* (11
 1170 01773 R 202244 R LAC XA
 1171 01774 R 060011 A DAC* 11
 1172 01775 R 202245 R LAC YA
 1173 01776 R 060011 A DAC* 11
 1174 01777 R 601767 R JMP OUT /WRITE IN, DRAW AND EXIT
 1175 /SUBROUTINE FOR DRAWING A SINGLE ROUTE. COPY INTO CROSS, FROM BUFF.
 1176 /WRITE INTO THE ROUTES ARRAY AND CALL DRAW.
 1177 02000 R 740040 A DROR XX
 1178 02001 R 205453 R LAC (BUFF-1
 1179 02002 R 065454 R DAC* (13
 1180 02003 R 740031 A TCA
 1181 02004 R 342422 R TAD ENBUF

1182 02005 R 740031 A TCA /*NO. OF WORDS TO BE COPIED
1183 02006 R 045277 R DAC NWORDS#
1184 02007 R 205455 R LAC (CROSSS-1
1185 02010 R 065434 R DAC* (14
1186 02011 R 220013 A COPYLP LAC* 13 /*LOOP TO COPY BUFF TO CROSS
1187 02012 R 060014 A DAC* 14 /*FOR WRITRT CALL
1188 02013 R 445277 R ISZ NWORDS
1189 02014 R 602011 R JMP COPYLP
1190 02015 R 205456 R LAC (CROSSS
1191 02016 R 042603 R DAC WARG1+1 /*MODIFY RRITE TO WRITE FROM CROSS
1192 02017 R 222221 R LAC* CONPT
1193 02020 R 505400 R AND (77777
1194 02021 R 042225 R DAC DISPAD /* GRT D.F ADDR IN CASE IT HAS CHANGED
1195 02022 R 102570 R JMS RRITE /*WRITE ROUTE INTO DS.
1196 02023 R 205374 R LAC (BUFF
1197 02024 R 042603 R DAC WARG1+1 /*RESTORE RRITE
1198 02025 R 202221 R LAC CONPT
1199 02026 R 652000 A LMQ /*PARAMETER FOR CALL
1200 02027 R 205371 R LAC (4 /*OF DRAW
1201 02030 R 125342 E JMS* DRAWCP /*DRAW ROUTE
1202 02031 R 622000 R JMP* DROR /*EXIT
1203 02032 R 165274 R UGH DZM* MESS
1204 02033 R 445321 R ISZ VALID
1205 02034 R 205274 R LAC MESS
1206 02035 R 652000 A LMQ
1207 02036 R 205457 R LAC (MESSC
1208 02037 R 125345 E JMS* MESS1 /*MESSAGE 'ERROR'
1209 02040 R 703032 A RS2+10
1210 02041 R 505452 R AND (770000
1211 02042 R 045272 R DAC KEYVAL
1212 02043 R 703032 A KEYLP RS2+10
1213 02044 R 505452 R AND (770000
1214 02045 R 245272 R XOR KEYVAL
1215 02046 R 741200 A SNA /*BUTTON HIT
1216 02047 R 602043 R JMP KEYLP
1217 02050 R 601767 R JMP OUT
1218 02051 R 205274 R DRAWAL LAC MESS
1219 02052 R 165274 R DZM* MESS
1220 02053 R 652000 A LMQ
1221 02054 R 205460 R LAC (YTEN
1222 02055 R 125345 E JMS* MESS1
1223 02056 R 125335 E JMS* BUTTON
1224 02057 R 545370 R SAD (2
1225 02060 R 741000 A SKP /* BUTTONS 2 AND 4 REQUIRED TO CONTINUE
1226 02061 R 600063 R JMP START
1227 02062 R 125335 E JMS* BUTTON
1228 02063 R 545371 R SAD (4
1229 02064 R 741000 A SKP
1230 02065 R 600063 R JMP START
1231 02066 R 205461 R LAC (JMP DRAW4
1232 02067 R 042520 R DAC SUBCON+4
1233 02070 R 205462 R LAC (JMP DRWCON

1234 02071 R 042213 R ENDPT+7
1235 02072 R 200006 R LAC CONNAD
1236 02073 R 345442 R TAD (-1
1237 02074 R 042221 R DAC CONPT / SET TO START OF CONNECTIONS
1238 02075 R 102514 R DRAW2 JMS SUBCON / EXITS IF ALL CONN ROUTED
1239 /
1240 /
1241 /
1242 / FINISH MANUAL SECTION, NOW SECTION WHICH REPLACES CONNS BY ROUTES
1243 / 2 POINT OR 3 POINT IF PTHOLE NEEDED
1244 /
1245 02076 R 442220 R DRWCON ISZ NCONN
1246 02077 R 602101 R JMP MOCONN
1247 02100 R 602075 R JMP DRAW2
1248 02101 R 442221 R MOCONN ISZ CONPT
1249 02102 R 102533 R JMS RTPTDF / SEE IF ROUTE PTER -0
1250 02103 R 740200 A SZA
1251 02104 R 602076 R JMP DRWCON / ALREADY ROUTED
1252 02105 R 142246 R D2M NPTS / SET UP FOR INSERT LATRE
1253 02106 R 205453 R LAC (BUFF-1
1254 02107 R 065446 R DAC* (11 / SET AIR 11 TO 1ST WORD IN BUFF
1255 02110 R 222221 R LAC* CONPT
1256 02111 R 505400 R AND (77777
1257 02112 R 042225 R DAC DISPAD / UNPAK DF ADDRESS
1258 02113 R 202221 R LAC CONPT
1259 02114 R 345447 R TAD (-2
1260 02115 R 103414 R JMS LOCSub / AC PTS TO WORD CONTAINING PAD NO, EXIT XPYP-PAD POSN
1261 02116 R 202226 R LAC COMPT
1262 02117 R 225407 R LAC* (16
1263 02120 R 505463 R AND (3000
1264 02121 R 660511 A LRSS 11
1265 02122 R 045313 R DAC SIDE1 / SIDE INF OF PADS ON COMPT
1266 02123 R 202257 R LAC XP
1267 02124 R 042255 R DAC XP1
1268 02125 R 202260 R LAC YP
1269 02126 R 042256 R DAC YP1
1270 02127 R 202221 R LAC CONPT
1271 02130 R 345442 R TAD (-1
1272 02131 R 103414 R JMS LOCSub
1273 02132 R 202227 R LAC OTHCOMP
1274 02133 R 225407 R LAC* (16
1275 02134 R 505463 R AND (3000
1276 02135 R 660511 A LRSS 11
1277 02136 R 045314 R DAC SIDE2
1278 02137 R 741200 A SNA
1279 02140 R 602160 R JMP SWOPS / OTHER END ON EITHER SIDE
1280 02141 R 205313 R LAC SIDE1
1281 02142 R 741200 A SNA
1282 02143 R 602164 R JMP NOPTH / COMPT END ON EITHER SIDE
1283 02144 R 545314 R SAD SIDE2
1284 02145 R 602164 R JMP NOPTH / PADS ON SAME SIDE
1285 02146 R 442246 R ISZ NPTS / ONE PT MORE, FOR PTHOLE

1286 02147 R 202257 R LAC XP
 1287 02150 R 342255 R TAD XP1
 1288 02151 R 744020 A RCR
 1289 02152 R 042244 R DAC XA
 1290 02153 R 202260 R LAC YP
 1291 02154 R 342256 R TAD YP1
 1292 02155 R 744020 A RCR
 1293 02156 R 042245 R DAC YA
 / XA, YA IS NOW MID PT OF SEG, IE POSN FOR PTHOLE
 1295 02157 R 602164 R JMP NOPTH
 1296 02160 R 205313 R SWOPS LAC SIDE1
 1297 02161 R 741200 A SNA
 1298 02162 R 205403 R LAC (1 / CAN BE EITHER SIDE SO PUT ONS SIDE 1
 1299 02163 R 045314 R DAC SIDE2
 1300 02164 R 202246 R NOPTH LAC NPTS
 1301 02165 R 345370 R TAD (2
 1302 02166 R 060011 A DAC* 11
 1303 02167 R 202255 R LAC XP1
 1304 02170 R 060011 A DAC* 11
 1305 02171 R 202256 R LAC YP1
 1306 02172 R 060011 A DAC* 11
 1307 02173 R 202246 R LAC NPTS
 1308 02174 R 741200 A SNA
 1309 02175 R 602204 R JMP ENDPT / PTHOLE NOT NECESSARY
 1310 02176 R 205313 R LAC SIDE1
 1311 02177 R 060011 A DAC* 11
 1312 02200 R 202244 R LAC XA
 1313 02201 R 060011 A DAC* 11
 1314 02202 R 202245 R LAC YA
 1315 02203 R 060011 A DAC* 11
 1316 02204 R 205314 R ENDPT LAC SIDE2
 1317 02205 R 060011 A DAC* 11
 1318 02206 R 202257 R LAC XP
 1319 02207 R 060011 A DAC* 11
 1320 02210 R 202260 R LAC YP
 1321 02211 R 060011 A DAC* 11
 1322 02212 R 102570 R JMS RRITE
 1323 02213 R 602076 R JMP DRWCON
 1324 02214 R 750000 A DRAW4 CLA
 1325 02215 R 650000 A CLQ
 1326 02216 R 125342 E JMS* DRAWCP
 1327 02217 R 620002 R JMP* MANRUT
 /END OF MAINLINE BENRUT, NOW FOLLOWS SYMBOL TABLE FOR MAINLINE
 1331 02220 R 000000 A NCONN 0 / -NO OF CONNS IN CURRENT ENTRY
 1332 02221 R 000000 A CONPT 0 / ABS PTER FOR SCANNING CONNECTIONS
 1333 02222 R 000000 A ABSENC 0 / ABS PTER TO END OF CONN
 1334 02223 R 000000 A IND 0 / PARAM FOR READRT LEFT=ZERO
 1335 02224 R 000000 A SOID 0 / ROUTES ON THIS SIDE ARE TESTED
 1336 02225 R 000000 A DISPAD 0
 1337 02226 R 000000 A COMPT 0 / RELDIV6

1338 02227 R 000000 A O 000000 0
1339 02230 R 000000 A XX 0
1340 02231 R 000000 A YY 0
1341 02232 R 000000 A XX1 0
1342 02233 R 000000 A YY1 0
1343 / USED IN MANUAL, AND IN SEGCROSS AS ENDS OF ROUTE SEG
1344 02234 R 000000 A JTHSEG 0
1345 02235 R 000000 A REMSID 0
1346 02236 R 000000 A XZ 0
1347 02237 R 000000 A YZ 0 / USED IN REMOVE CORNERS, END OF 1ST SEG
1348 02240 R 000000 A XN 0
1349 02241 R 000000 A YN 0
1350 02242 R 000000 A XNR 0
1351 02243 R 000000 A YNR 0
1352 02244 R 000000 A XA 0
1353 02245 R 000000 A YA 0
1354 02246 R 000000 A NPTS 0 / NO OF PTS IN ROUTE
1355 02247 R 000000 A SIDE 0
1356 02250 R 000000 A SPTER 0 / USED FOR POINTING TO POINT IN BUFF
1357 02251 R 000000 A NCROSS 0
1358 02252 R 000000 A STOFLG 0
1359 02253 R 000000 A OTHSD 0
1360 02254 R 000000 A OLCROSS 0 / NO OF CROSSOVERS OF LAST CASE
1361 02255 R 000000 A XP1 0
1362 02256 R 000000 A YP1 0
1363 02257 R 000000 A XP 0
1364 02260 R 000000 A YP 0
1365 02261 R 000000 A XL1 0
1366 02262 R 000000 A YL1 0
1367 02263 R 000000 A OFF 0 / AMOUNT OF OFFSET TO BE ADDED TO ENDS OF SEG
1368 02264 R 000000 A CROSSS 0
1369 02265 R 000000 A .BLOCK 134 / STORE END PTS OF CROSSING SEGS
1370 02421 R 000000 A INSFLG 0
1371 02422 R 000000 A ENBUF 0
1372 02423 R 001750 A MESSA 1750
1373 02424 R 000000 A 0
1374 02425 R 202470 A .ASCII / SELECT ROUTE_/
02426 R 546212 A
02427 R 416504 A
02430 R 051236 A
02431 R 526510 A
02432 R 557400 A
1375 02433 R 001750 A MESSB 1750
1376 02434 R 000000 A 0
1377 02435 R 202052 A .ASCII / BUTTON TO, RELEASE_/
02436 R 552250 A
02437 R 476344 A
02440 R 052236 A
02441 R 261012 A
02442 R 242630 A
02443 R 426032 A
02444 R 342676 A

1378 02445 R 001750 A MESSC 1750
1379 02446 R 000000 A 0
1380 02447 R 202132 A .ASCII / ERROR/
02450 R 251236 A
02451 R 512760 A
02452 R 000000 A
1381 02453 R 740040 A / DUMMY LABELS UNTIL GLOBAL ROUTINES AVAILABLE
GETCON XX / AC CONTAINS DF ADDRESS OF A ROUTE
1382 02454 R 042225 R DAC DISPAD
1383 02455 R 102514 R NXTCOM JMS SUBCON / SET NCONN
1384 02456 R 442220 R NXTCON ISZ NCONN
1385 02457 R 602461 R JMP GETDF
1386 02460 R 602455 R JMP NXTCOM / FINISHED WITH THIS COMPONENT
1387 02461 R 442221 R GETDF ISZ CONPT
1388 02462 R 102533 R JMS RTPDF / GET ROUTE POINTER AND DF ADDRESS
1389 02463 R 542225 R SAD DISPAD
1390 02464 R 602466 R JMP GOTRT
1391 02465 R 602456 R JMP NXTCON
1392 02466 R 102470 R GOTRT JMS GTRUT / READ ROUTE INTO BUFF
1393 02467 R 622453 R JMP* GETCON
1394 /
1395 / NOW GETRUT WHICH READS ROUTE INTO BUFF, 1ST PT INTO XN, YN AND XNR, YNR
1396 / SETS ENBUF TO LAST WORD OF ROUTE. AIR 11 SET TO 2ND POINT
1397 02470 R 740040 A GTRUT XX
1398 02471 R 205374 R LAC (BUFF
1400 02472 R 044205 R DAC RTOFR+1
1401 02473 R 104175 R JMS DESTRY
1402 02474 R 045301 R DAC OLVAL# /PREV. VALIDITY
1403 02475 R 204653 R LAC BUFF
1404 02476 R 042246 R DAC NPTS / NO OF POINTS IN ROUTE
1405 02477 R 744010 A RCL / 2*NPTS
1406 02500 R 342246 R TAD NPTS / 3*NPTS
1407 02501 R 345453 R TAD (BUFF-1 / ABS ADDR OF 1ST WORD
1408 02502 R 042422 R DAC ENBUF / ABS ADDR OF LAST WORD
1409 02503 R 205374 R LAC (BUFF
1410 02504 R 065446 R DAC* (11
1411 02505 R 220011 A LAC* 11
1412 02506 R 042240 R DAC XN
1413 02507 R 042242 R DAC XNR
1414 02510 R 220011 A LAC* 11
1415 02511 R 042241 R DAC YN
1416 02512 R 042243 R DAC YNR
1417 02513 R 622470 R JMP* GTRUT
1418 /
1419 /
1420 02514 R 740040 A SUBCON XX / GETS NO OF CONNS FOR A COMPT, CONPT PTS TO WORD BEFORE
1421 / CONN ENTRY
1422 02515 R 202221 R LAC CONPT
1423 02516 R 345403 R TAD (1
1424 02517 R 542222 R SAD ABSENC
1425 02520 R 600063 R JMP START / NO CONNS LEFT, SO EXIT
1426 02521 R 042221 R DAC CONPT

1427 02522 R 222221 R ~~LAC~~ CONPT
 1428 02523 R 505377 R AND (???)
 1429 02524 R 740001 A CMA
 1430 02525 R 042220 R DAC NCONN / -NO OF CONNS-1
 1431 02526 R 222221 R LAC* CONPT
 1432 02527 R 744000 A CLL
 1433 02530 R 640511 A LRS 11
 1434 02531 R 042226 R DAC COMPT / (COMP POINTER)/6
 1435 02532 R 622514 R JMP* SUBCON
 1436
 1437 / NOW RTPTDF WHICH GETS ROUT PTER AND DF ADDRESS. EXITS WITH AC=0
 1438 / IF NOT ROUTED ELSE =DF ADDRESS
 1439 02533 R 740040 A RTPTDF XX
 1440 02534 R 222221 R LAC* CONPT
 1441 02535 R 744000 A CLL
 1442 02536 R 640511 A LRS 11
 1443 02537 R 042227 R DAC OTHCOMP
 1444 02540 R 442221 R ISZ CONPT
 1445 02541 R 222221 R LAC* CONPT
 1446 02542 R 652000 A LMQ
 1447 02543 R 442221 R ISZ CONPT
 1448 02544 R 222221 R LAC* CONPT
 1449 02545 R 740010 A RAL
 1450 02546 R 742010 A RTL
 1451 02547 R 505365 R AND (3
 1452 02550 R 640614 A LLS 14
 1453 02551 R 045310 R DAC RUTPTR / UNPACKED REL PTER TO ROUTE
 1454 02552 R 205302 R LAC ONEFLG
 1455 02553 R 741200 A SNA
 1456 02554 R 602562 R JMP ALL
 1457 02555 R 222221 R LAC* CONPT
 1458 02556 R 505400 R AND (?????)
 1459 02557 R 542225 R SAD DISPAD / SEARCH FOR DF ADDR
 1460 02560 R 741000 A SKP
 1461 02561 R 602565 R JMP RUETED / DF ADDR DIFFERENT
 1462 02562 R 205310 R ALL LAC RUTPTR
 1463 02563 R 741200 A SNA
 1464 02564 R 622533 R JMP* RTPTDF / NOT ROUTED
 1465 02565 R 222221 R RUETED LAC* CONPT
 1466 02566 R 505400 R AND (?????)
 1467 02567 R 622533 R JMP* RTPTDF
 1468
 1469 /
 1470 02570 R 740040 A WRITE XX / USES GLOBAL WRITRT TO WRITE BUFF TO ROUTE ARRAY
 1471 02571 R 200011 R LAC ROUTAD
 1472 02572 R 360012 R TAD* EROUT
 1473 02573 R 345442 R TAD (-1
 1474 02574 R 045322 R DAC WARG10#
 1475 02575 R 205321 R LAC VALID
 1476 02576 R 740201 A SZA!CMA /INVALID IF ZERO
 1477 02577 R 205301 R LAC OLVAL
 1478 02600 R 125355 E JMS* WRITRT

1479 02601 R 602610 R JMP .+1+6
 1480 02602 R 005322 R WARG1 .DSA WARG10
 1481 02603 R 004653 R .DSA BUFF
 1482 02604 R 000000 A WARG3 0
 1483 02605 R 000000 A WARG4 0
 1484 02606 R 000000 A WARG5 0
 1485 02607 R 002225 R .DSA DISPAD
 1486 02610 R 622570 R JMP* RRITE
 1487 /
 1488 /
 1489 02611 R 740040 A RUTGAP XX / FORMS 3 WORD GAP IN BUFF BETWEEN ENDS OF CURRENT SEG
 1490 02612 R 444653 R ISZ BUFF / UPDATES NO OF POINTS IN ROUTE BY +1
 1491 02613 R 202422 R LAC ENBUF
 1492 02614 R 042634 R DAC PT1 / PTER SET TO LAST WORD
 1493 02615 R 345365 R TAD (3
 1494 02616 R 042635 R DAC PT2 / LAST WORD +3
 1495 02617 R 042422 R DAC ENBUF / UPDATE PTER TO END OF ROUTE
 1496 02620 R 222634 R COPYDN LAC* PT1
 1497 02621 R 062635 R DAC* PT2
 1498 02622 R 202634 R LAC PT1
 1499 02623 R 542250 R SAD SPTER / PTS TO 1ST WORD OF 2ND POINT OF SEG
 1500 02624 R 602633 R JMP FINCOP
 1501 02625 R 345442 R TAD (-1
 1502 02626 R 042634 R DAC PT1
 1503 02627 R 202635 R LAC PT2
 1504 02630 R 345442 R TAD (-1
 1505 02631 R 042635 R DAC PT2 / MOVE BOTH POINTERS DOWN BY 1
 1506 02632 R 602620 R JMP COPYDN
 1507 02633 R 622611 R FINCOP JMP* RUTGAP
 1508 02634 R 000000 A PT1 0
 1509 02635 R 000000 A PT2 0
 1510 /
 1511 /
 1512 /
 1513 02636 R 740040 A XOVER XX / SEE IF (XNYN)(XAYA) CROSSES
 1514 / (XX YY)(XX1 YY1). EXITS WITH AC=1 IF IT DOES, =0 IF NOT
 1515 02637 R 202230 R LAC XX / SET UP
 1516 02640 R 740001 A CMA
 1517 02641 R 345403 R TAD (1
 1518 02642 R 043230 R DAC BASEX / -XX
 1519 02643 R 202231 R LAC YY
 1520 02644 R 740001 A CMA
 1521 02645 R 345403 R TAD (1
 1522 02646 R 043231 R DAC BASEY / -YY
 1523 02647 R 202232 R LAC XX1
 1524 02650 R 740001 A CMA
 1525 02651 R 345403 R TAD (1
 1526 02652 R 043232 R DAC BASEX1 / -XX1
 1527 02653 R 202233 R LAC YY1
 1528 02654 R 740001 A CMA
 1529 02655 R 345403 R TAD (1
 1530 02656 R 043233 R DAC BASEY1 / -YY1

1531
1532 02657 R 202240 R LAC XN TRY REANGLE TEST
1533 02660 R 343230 R TAD BASEX
1534 02661 R 741200 A SNA
1535 02662 R 602722 R JMP YTEST
1536 02663 R 741100 A SPA
1537 02664 R 602705 R JMP NOTPS1
1538 02665 R 202244 R LAC XA
1539 02666 R 343230 R TAD BASEX
1540 02667 R 740200 A SZA
1541 02670 R 741100 A SPA
1542 02671 R 602722 R JMP YTEST
1543 02672 R 202240 R LAC XN
1544 02673 R 343232 R TAD BASEX1
1545 02674 R 740200 A SZA
1546 02675 R 741100 A SPA
1547 02676 R 602722 R JMP YTEST
1548 02677 R 202244 R LAC XA
1549 02700 R 343232 R TAD BASEX1
1550 02701 R 740200 A SZA
1551 02702 R 741100 A SPA
1552 02703 R 602722 R JMP YTEST
1553 02704 R 603217 R JMP NOKER
1554 02705 R 202244 R NOTPS1 LAC XA
1555 02706 R 343230 R TAD BASEX
1556 02707 R 740100 A SMA
1557 02710 R 602722 R JMP YTEST
1558 02711 R 202240 R LAC XN
1559 02712 R 343232 R TAD BASEX1
1560 02713 R 740100 A SMA
1561 02714 R 602722 R JMP YTEST
1562 02715 R 202244 R LAC XA
1563 02716 R 343232 R TAD BASEX1
1564 02717 R 740100 A SMA
1565 02720 R 602722 R JMP YTEST
1566 02721 R 603217 R JMP NOKER
1567 02722 R 202241 R YTEST LAC YN
1568 02723 R 343231 R TAD BASEY
1569 02724 R 741200 A SNA
1570 02725 R 602765 R JMP ANGTST
1571 02726 R 741100 A SPA
1572 02727 R 602750 R JMP NOTPS3
1573 02730 R 202245 R LAC YA
1574 02731 R 343231 R TAD BASEY
1575 02732 R 740200 A SZA
1576 02733 R 741100 A SPA
1577 02734 R 602765 R JMP ANGTST
1578 02735 R 202241 R LAC YN
1579 02736 R 343233 R TAD BASEY1
1580 02737 R 740200 A SZA
1581 02740 R 741100 A SPA
1582 02741 R 602765 R JMP ANGTST

1583 02742 R 202245 R LAC YA
1584 02743 R 343233 R TAD BASEY1
1585 02744 R 740200 A SZA
1586 02745 R 741100 A SPA
1587 02746 R 602765 R JMP ANGTST
1588 02747 R 603217 R JMP NOKER
1589 02750 R 202245 R NOTPS3 LAC YA
1590 02751 R 343231 R TAD BASEY
1591 02752 R 740100 A SMA
1592 02753 R 602765 R JMP ANGTST
1593 02754 R 202241 R LAC YN
1594 02755 R 343233 R TAD BASEY1
1595 02756 R 740100 A SMA
1596 02757 R 602765 R JMP ANGTST
1597 02760 R 202245 R LAC YA
1598 02761 R 343233 R TAD BASEY1
1599 02762 R 740100 A SMA
1600 02763 R 602765 R JMP ANGTST
1601 02764 R 603217 R JMP NOKER
1602 / CANT REJECT ON RECTANGLE BASIS SO ANGLED CROSSOVER TEST
1603 02765 R 143221 R ANGTST DZM ZFLG
1604 / NOW COMPUTU DISTANCE OF (XNYN) AND (XBYA) FROM OTHER LINE.
1605 02766 R 202232 R LAC XX1
1606 02767 R 343230 R TAD BASEX
1607 02770 R 043222 R DAC DELX
1608 02771 R 202233 R LAC YY1
1609 02772 R 343231 R TAD BASEY
1610 02773 R 043223 R DAC DELY
1611 02774 R 202240 R LAC XN
1612 02775 R 343230 R TAD BASEX
1613 02776 R 652000 A LMQ
1614 02777 R 203223 R LAC DELY
1615 03000 R 103236 R JMS MULT
1616 03001 R 043224 R DAC SUM1
1617 03002 R 641002 A LACQ
1618 03003 R 043225 R DAC SUM2
1619 03004 R 202241 R LAC YN
1620 03005 R 343231 R TAD BASEY
1621 03006 R 652000 A LMQ
1622 03007 R 203222 R LAC DELX
1623 03010 R 103236 R JMS MULT
1624 03011 R 103277 R JMS DSUBS
1625 03012 R 203224 R LAC SUM1
1626 03013 R 043226 R DAC TOT1
1627 03014 R 203225 R LAC SUM2
1628 03015 R 043227 R DAC TOT2 / TOT1, TOT2 NOW HOLDS DIST OF (XNYN) TO LINE
1629 03016 R 202244 R LAC XA
1630 03017 R 343230 R TAD BASEX
1631 03020 R 652000 A LMQ
1632 03021 R 203223 R LAC DELY
1633 03022 R 103236 R JMS MULT
1634 03023 R 043224 R DAC SUM1

1635 03024 R 641002 A DQ
1636 03025 R 043225 R DAC SUM2
1637 03026 R 202245 R LAC YA
1638 03027 R 343231 R TAD BASEY
1639 03030 R 652000 A LMQ
1640 03031 R 203222 R LAC DELX
1641 03032 R 103236 R JMS MULT
1642 03033 R 103277 R JMS DSUBS / SUM1, SUM2 HOLDS DIST OF XAYA TO LINE
1643 03034 R 203226 R LAC TOT1
1644 03035 R 303227 R ADD TOT2
1645 03036 R 740200 A SZA / POINT IS ON LINE
1646 03037 R 603046 R JMP TOTNZ
1647 03040 R 443221 R ISZ ZFLG / RECORD PT ON LINE
1648 03041 R 203224 R LAC SUM1
1649 03042 R 303225 R ADD SUM2
1650 03043 R 741200 A SNA
1651 03044 R 603163 R JMP COMMON / DOUBLE PT.LINE, SO TEST FOR COMMON NODE
1652 03045 R 603060 R JMP FINANG / MAYB XOVER
1653 03046 R 203224 R TOTNZ LAC SUM1
1654 03047 R 303225 R ADD SUM2
1655 03050 R 740200 A SZA / PT ON LINE
1656 03051 R 603054 R JMP SUMNZ
1657 03052 R 443221 R ISZ ZFLG / RECORD PT.LINE
1658 03053 R 603060 R JMP FINANG
1659 03054 R 203226 R SUMNZ LAC TOT1
1660 03055 R 243224 R XOR SUM1
1661 03056 R 740100 A SMA
1662 03057 R 603217 R JMP NOKER / SAME SIGN, SO PTS ON SAME SIDE
1663 03060 R 202240 R FINANG LAC XN
1664 03061 R 740001 A CMA
1665 03062 R 345403 R TAD (1
1666 03063 R 043234 R DAC BASEXN
1667 03064 R 202241 R LAC YN
1668 03065 R 740001 A CMA
1669 03066 R 345403 R TAD (1
1670 03067 R 043235 R DAC BASEYN
1671 03070 R 202244 R LAC XA
1672 03071 R 343234 R TAD BASEXN
1673 03072 R 043222 R DAC DELX
1674 03073 R 202245 R LAC YA
1675 03074 R 343235 R TAD BASEYN
1676 03075 R 043223 R DAC DELY
1677 03076 R 202230 R LAC XX
1678 03077 R 343234 R TAD BASEXN
1679 03100 R 652000 A LMQ
1680 03101 R 203223 R LAC DELY
1681 03102 R 103236 R JMS MULT
1682 03103 R 043224 R DAC SUM1
1683 03104 R 641002 A LACQ
1684 03105 R 043225 R DAC SUM2
1685 03106 R 202231 R LAC YY
1686 03107 R 343235 R TAD BASEYN

1687 03110 R 652000 A LMQ
1688 03111 R 203222 R LAC DELX
1689 03112 R 103236 R JMS MULT
1690 03113 R 103277 R JMS DSUBS
1691 03114 R 203224 R LAC SUM1
1692 03115 R 043226 R DAC TOT1
1693 03116 R 203225 R LAC SUM2
1694 03117 R 043227 R DAC TOT2 / (TOT1,TOT2) HOLDS DIST OF (XX,YY) FROM OTHER LINE
1695 03120 R 202232 R LAC XX1
1696 03121 R 343234 R TAD BASEXN
1697 03122 R 652000 A LMQ
1698 03123 R 203223 R LAC DELY
1699 03124 R 103236 R JMS MULT
1700 03125 R 043224 R DAC SUM1
1701 03126 R 641002 A LACQ
1702 03127 R 043225 R DAC SUM2
1703 03130 R 202233 R LAC YY1
1704 03131 R 343235 R TAD BASEYN
1705 03132 R 652000 A LMQ
1706 03133 R 203222 R LAC DELX
1707 03134 R 103236 R JMS MULT
1708 03135 R 103277 R JMS DSUBS / (SUM1,SUM2) HOLDS DIST OF (XX1,YY1) FROM OTHER LINE
1709 03136 R 203226 R LAC TOT1
1710 03137 R 303227 R ADD TOT2
1711 03140 R 740200 A SZA / POINT IS ON LINE
1712 03141 R 603146 R JMP TOTNZ2
1713 03142 R 203221 R LAC ZFLG
1714 03143 R 740200 A SZA
1715 03144 R 603217 R JMP NOKER / PT TO PT
1716 03145 R 603215 R JMP KROZ
1717 03146 R 203224 R TOTNZ2 LAC SUM1
1718 03147 R 303225 R ADD SUM2
1719 03150 R 740200 A SZA / PT ON LINE
1720 03151 R 603156 R JMP SUMNZ2
1721 03152 R 203221 R LAC ZFLG
1722 03153 R 740200 A SZA
1723 03154 R 603217 R JMP NOKER / PT TO PT
1724 03155 R 603215 R JMP KROZ
1725 03156 R 203226 R SUMNZ2 LAC TOT1
1726 03157 R 243224 R XOR SUM1
1727 03160 R 740100 A SMA
1728 03161 R 603217 R JMP NOKER / SAME SIGN, SO PTS ON SAME SIDE
1729 03162 R 603215 R JMP KROZ / DIFF SIDE, SO CROSSOVER
1730 03163 R 202244 R COMMON LAC XA / TESTS IF LINES HAVE LCOMMON POINT
1731 03164 R 542232 R SAD XX1 / IF SO, NO CROSSOVER
1732 03165 R 603175 R JMP SAMX1
1733 03166 R 542230 R SAD XX
1734 03167 R 741000 A SKP
1735 03170 R 603200 R JMP BOTHN
1736 03171 R 202245 R LAC YA
1737 03172 R 542231 R SAD YY
1738 03173 R 603217 R JMP NOKER / COMMON PT

1739 03174 R 603200 R J. BOTHN
1740 03175 R 202245 R SAMX1 LAC YA
1741 03176 R 542233 R SAD YY1
1742 03177 R 603217 R JMP NOKER
1743 03200 R 202240 R BOTHN LAC XN
1744 03201 R 542232 R SAD XX1
1745 03202 R 603212 R JMP SAMX2
1746 03203 R 542230 R SAD XX
1747 03204 R 741000 A SKP
1748 03205 R 603215 R JMP KROZ
1749 03206 R 202241 R LAC YN
1750 03207 R 542231 R SAD YY
1751 03210 R 603217 R JMP NOKER
1752 03211 R 603215 R JMP KROZ
1753 03212 R 202241 R SAMX2 LAC YN
1754 03213 R 542233 R SAD YY1
1755 03214 R 603217 R JMP NOKER
1756 03215 R 205403 R KROZ LAC (-1
1757 03216 R 622636 R JMP* XOVER
1758 03217 R 750000 A NOKER CLA
1759 03220 R 622636 R JMP* XOVER
1760 / SYMBOLS FOR ZOVER
1761 03221 R 000000 A ZFLG 0 / FLAG ALSO USED IN EGGTES SUBROUTINE
1762 03222 R 000000 A DELX 0
1763 03223 R 000000 A DELY 0
1764 03224 R 000000 A SUM1 0
1765 03225 R 000000 A SUM2 0
1766 03226 R 000000 A TOT1 0
1767 03227 R 000000 A TOT2 0
1768 03230 R 000000 A BASEX 0
1769 03231 R 000000 A BASEY 0
1770 03232 R 000000 A BASEX1 0
1771 03233 R 000000 A BASEY1 0
1772 03234 R 000000 A BASEXN 0
1773 03235 R 000000 A BASEYN 0
1774 03236 R 740040 A MULT XX / MULTIPLIES ACB*MQ, STORES SIGNED RESULT IN(BC,AQ)
1775 03237 R 664000 A GSM
1776 03240 R 741400 A S2L
1777 03241 R 345403 R TAD (-1 / AC-VE
1778 03242 R 043260 R DAC QUOT
1779 03243 R 205447 R LAC (-2
1780 03244 R 043275 R DAC MINUS / SIGN INDICATOR
1781 03245 R 741400 A S2L
1782 03246 R 443275 R ISZ MINUS / AC-VE
1783 03247 R 641002 A LACQ
1784 03250 R 740100 A SMA
1785 03251 R 603256 R JMP POZZ
1786 03252 R 443275 R ISZ MINUS / MQ-VE
1787 03253 R 740000 A NOP / INCASE MINUS IS NOW 0
1788 03254 R 740001 A CMA
1789 03255 R 345403 R TAD (-1
1790 03256 R 744000 A POZZ CLL

1791 03257 R 653122 A MUL
1792 03260 R 000000 A QUOT 0
1793 03261 R 443275 R ISZ MINUS
1794 03262 R 623236 R JMP* MULT / ANSWER +VE, EXIT
1795 03263 R 043276 R DAC TOP / NOW NEGATE DOUBLE LENGTH AC,MQ
1796 03264 R 641002 A LACQ
1797 03265 R 744001 A CLL!CMA
1798 03266 R 345373 R TAD (0
1799 03267 R 652000 A LMQ
1800 03270 R 203276 R LAC TOP / BOTTOM NEGATED
1801 03271 R 740001 A CMA
1802 03272 R 741400 A SZL / CARRIED FROM BOTTOM
1803 03273 R 345403 R TAD (1
1804 03274 R 623236 R JMP* MULT
1805 03275 R 000000 A MINUS 0
1806 03276 R 000000 A TOP 0
1807 03277 R 740040 A DSUBS XX / SUBTRACTS DOUBLE LENGTH NUMBER
/ IN(AC,MQ) FROM (SUM1,STM2)
1808 CMA
1809 03300 R 740001 A TAD SUM1
1810 03301 R 343224 R DAC SUM1 / NEGATE(AC), ADD TO SUM1
1811 03302 R 043224 R LACQ
1812 03303 R 641002 A CLL!CMA
1813 03304 R 744001 A TAD (1 / NEGATE (MQ)
1814 03305 R 345403 R SZL
1815 03306 R 741400 A ISZ SUM1 / CARRY FROM NEGATD
1816 03307 R 443224 R NOP / INCASE OF 0
1817 03310 R 740000 A CLL
1818 03311 R 744000 A TAD SUM2
1819 03312 R 343225 R DAC SUM2 /ADD (-MQ) TO SUM2
1820 03313 R 043225 R SZL
1821 03314 R 741400 A ISZ SUM1 / CARRY FROM ADD
1822 03315 R 443224 R NOP
1823 03316 R 740000 A JMP* DSUBS
1824 03317 R 623277 R EGGTES XX / SEES IF CURRENT ROUTE SEGMENT IS CONNECTED TO A PAD
1825 03320 R 740040 A / WHICH IS ONE SIDE ONLY AND SO CANNOT BE SWAPPED TO
1826 / OTHER SIDE. IF IT CAN, EXIT IS TO 2 WORDS AFTER JUMP.
1827
1828 03321 R 143221 R DZM ZFLG
1829 03322 R 143412 R DZM CFLG
1830 03323 R 202234 R LAC JTHSEG
1831 03324 R 545373 R SAD (0
1832 03325 R 443221 R ISZ ZFLG / ZFG SET 1 IF 1ST SEG
1833 03326 R 740001 A CMA
1834 03327 R 342246 R TAD NPTS
1835 03330 R 740200 A SZA
1836 03331 R 603334 R JMP NAWLUST
1837 03332 R 443221 R ISZ ZFLG
1838 03333 R 443221 R ISZ ZFLG / ZFLG INCREASED BY 2 IF LAST SEG
1839 03334 R 203221 R NAWLUST LAC ZFLG
1840 03335 R 741200 A SNA
1841 03336 R 603410 R JMP YUP / CAN BE SWAPPED, NOT 1ST OR LAST SEG
/ ZFLG IS NOW=1 IF SEG IS 1ST IN ROUTE, =2 IF LAST

1843 03337 R 202221 R / ~~J=3~~ IF BOTW 1ST AND LAST IE SINGLE SEG.
 1844 03340 R 345447 R LAC CONPT
 1845 03341 R 103414 R TAD (-2
 1846 03342 R 202226 R JMS LOCSUB / GET NODE POSITION, STORE IN XP,YP
 1847 03343 R 225407 R LAC COMPT
 1848 03344 R 505463 R LAC* (16 / 4TH WORD OF COMPT ENTRY
 1849 03345 R 740200 A AND (3000
 1850 03346 R 603363 R SZA / COMP IS NOT SINGLE SIDED
 1851 03347 R 202221 R JMP ENDTST
 1852 03350 R 345442 R OTHNOD LAC CONPT / TEST OTHER COMP
 1853 03351 R 103414 R TAD (-1
 1854 03352 R 202227 R JMS LOCSUB / GET NODE POSN.
 1855 03353 R 225407 R LAC OTHCOMP
 1856 03354 R 505463 R LAC* (16 / 4TH WD OF COMP
 1857 03355 R 741200 A AND (3000
 1858 03356 R 603410 R SNA
 1859 03357 R 203412 R JMP YUP / NEITHER COMP IS SINGLE SIDED, SO CAN SWOP
 1860 03360 R 740200 A LAC CFLG
 1861 03361 R 603411 R SZA / OTHCOMP HAS NOT BEEN TESTED YET
 1862 03362 R 443412 R JMP NOPE / BOTH COMPS SINGLE SIDED, SO CANT SWOP
 1863 03363 R 203221 R ISZ CFLG / SET TO INDICATE OTHCOMP TESTED
 1864 03364 R 545365 R ENDTST LAC ZFLG / COMP(CFLG=0) OR OTHER COMP (CFLG=1)
 1865 03365 R 603411 R / IS SINGLE SIDED, NOW SEE IF SEG IS CONNECTED TO RELEVANT COMP
 1866 03366 R 204654 R SAD (3
 1867 03367 R 542257 R JMP NOPE / ONE END OF ROUTE IS SINGLE SIDED, AND SEG IS ONLY ONE
 1868 03368 R 741000 A / IN ROUTE, SO CANT SWOP
 1869 03369 R 603402 R LAC BUFF+1 / XCOORD OF 1RT POINT IN ROUTE
 1870 03370 R 741000 A SAD XP / COORD OF COMP/OTHCOMP PAD
 1871 03371 R 603402 R SKP
 1872 03372 R 204655 R JMP LASTPT / XP,YP MUST BE LAST OF ROUTE
 1873 03373 R 542260 R LAC BUFF+2 / Y COORD 1ST PT
 1874 03374 R 741000 A SAD YP
 1875 03375 R 603402 R SKP
 1876 03376 R 203221 R JMP LASTPT
 1877 03377 R 545403 R FIRSTPT LAC ZFLG / XP,YP IS 1ST PT OF ROUTE
 1878 03378 R 603411 R SAD (1
 1879 03400 R 603411 R JMP NOPE / SEG IS 1ST, AND COMP AT THIS END IS SINGLE SIDED
 1880 03401 R 603405 R JMP CTST
 1881 03402 R 203221 R LASTPT LAC ZFLG
 1882 03403 R 545370 R SAD (2
 1883 03404 R 603411 R JMP NOPE
 1884 03405 R 203412 R CTST LAC CFLG / HAS OTHCOMP BEEN TESTED?
 1885 03406 R 741200 A SNA
 1886 03407 R 603347 R JMP OTHNOD
 1887 03410 R 443320 R YUP ISZ EGGETS
 1888 03411 R 623320 R NOPE JMP* EGGETS
 1889 03412 R 000000 A CFLG 0 / TEST INDICATOR
 1890 03413 R 000000 A PTER 0 / ABS POINTER TO ROUTE
 1891 03414 R 740040 A LOCSUB XX / AC POINTS TO 2ND WD OF CONN, GETS NODE NO
 1892 03415 R 043413 R DAC PTER / AND CALLS SUBNOD
 1893 03416 R 423414 R XCT* LOCSUB / PARAM FOR SUBNOD
 1894 03417 R 043435 R DAC KOMPT

1895 03420 R 223413 R LAC* PTER
 1896 03421 R 505406 R AND (77
 1897 03422 R 045276 R DAC NOD
 1898 03423 R 125352 E JMS* SUBNOD
 1899 03424 R 603433 R JMP .+1+6
 1900 03425 R 002257 R .DSA XP
 1901 03426 R 002260 R .DSA YP
 1902 03427 R 000000 A SARG1 0
 1903 03430 R 000000 A SARG2 0
 1904 03431 R 003435 R .DSA KOMPT
 1905 03432 R 005276 R .DSA NOD
 1906 03433 R 443414 R ISZ LOCSub
 1907 03434 R 623414 R JMP* LOCSub
 1908 03435 R 000000 A KOMPT 0 / (REL PTER TO COMP)/6
 1909 703022 A RS2=703022
 1910 /
 1911 /
 1912 /
 1913 03436 R 205274 R MODIFY LAC MESS
 1914 03437 R 652000 A LMQ
 1915 03440 R 205445 R LAC (MESSA
 1916 03441 R 165274 R DZM* MESS
 1917 03442 R 125345 E JMS* MESS1
 1918 03443 R 460001 R ISZ* MSFLAG /BUG9
 1919 03444 R 205374 LAC (BUFF
 1920 03445 R 044107 R DAC CPEOCP+1
 1921 03446 R 044205 R DAC RTOFRT+1
 1922 03447 R 145260 R DZM CFLAG
 1923 03450 R 145261 R DZM CFLAG2
 1924 03451 R 104240 R JMS KEYS
 1925 03452 R 045272 R DAC KEYVAL
 1926 03453 R 125341 E SEARCH JMS* DFLPK
 1927 03454 R 603456 R JMP .+2
 1928 03455 R 005434 R .DSA (14 / LOOK FOR COPPER AND ROUTES
 1929 03456 R 741100 A SPA
 1930 03457 R 600113 R JMP DRAW5
 1931 03460 R 045266 R DAC DISFAD# / D.F. ADDR
 1932 03461 R 225266 R LAC* DISFAD
 1933 03462 R 741100 A SPA
 1934 03463 R 604122 R JMP COPPER / SAW COPPER
 1935 /
 1936 / ROUTE MODIFICATION REQUIRED
 1937 03464 R 145270 R DZM FALG#
 1938 03465 R 045311 R DAC SCAN /POINTER TO D.S
 1939 03466 R 104144 R JMS GETRUT / READ ROUTE DESTRUCTIVELY
 1940 03467 R 777774 A LAW -4 / GET PTR ETC.
 1941 03470 R 344653 R TAD BUFF
 1942 03471 R 741100 A SPA
 1943 03472 R 603635 R JMP PACKIT / REPLACE ROUTE
 1944 03473 R 740001 A CMA
 1945 03474 R 045262 R DAC CNTR# / -NO OF VALID SEGS
 1946 03475 R 205374 R LAC (BUFF

1947 03476 R 723006 A A-6
1948 03477 R 065410 R DAC* (17
1949 03500 R 220017 A LOOP2 LAC* 17
1950 03501 R 045325 R DAC X1*
1951 03502 R 220017 A LAC* 17
1952 03503 R 045332 R DAC Y1*
1953 03504 R 652000 A LMQ
1954 03505 R 205325 R LAC X1
1955 03506 R 125351 E JMS* SCALUP / PUT INTO SCREEN UNITS
1956 03507 R 104275 R JMS CUT
1957 03510 R 565356 E SAD* XOPEN
1958 03511 R 741000 A SKP
1959 03512 R 603517 R JMP NEXT
1960 03513 R 641002 A LACQ
1961 03514 R 104275 R JMS CUT
1962 03515 R 565361 E SAD* YOPEN
1963 03516 R 603523 R JMP GOTIT / FOUND REQUIRED SEG
1964 03517 R 220017 A NEXT LAC* 17 / BUMP POINTER
1965 03520 R 445262 R ISZ CNTR
1966 03521 R 603500 R JMP LOOP2
1967 03522 R 603635 R JMP PACKIT / NOT A VALID SEGMENT
1968 /
1969 / NOW ELIMINATE ANGLED SEGMENT
1970 /
1971 03523 R 205260 R GOTIT LAC CFLAG
1972 03524 R 740200 A SZA
1973 03525 R 603671 R JMP CU2
1974 03526 R 145320 R DZM TYPE*
1975 03527 R 225410 R LAC* (17
1976 03530 R 723773 A AAC -5
1977 03531 R 065410 R DAC* (17
1978 03532 R 220017 A LAC* 17
1979 03533 R 045326 R DAC X2*
1980 03534 R 545325 R SAD X1
1981 03535 R 603543 R JMP VERT / VERTICAL SEGMENT
1982 03536 R 220017 A LAC* 17
1983 03537 R 045333 R DAC Y2*
1984 03540 R 545332 R SAD Y1
1985 03541 R 603546 R JMP .+5
1986 03542 R 603635 R JMP PACKIT / ANGLED SEGMENT
1987 03543 R 220017 A VERT LAC* 17
1988 03544 R 045333 R DAC Y2
1989 03545 R 741000 A SKP
1990 03546 R 445320 R ISZ TYPE /=1 FOR HORIZONTAL
1991 /
1992 / POSITION CROSS AT MIDDLE OF SELECTED SEGMENT
1993 /
1994 03547 R 205332 R LAC Y1
1995 03550 R 652000 A LMQ
1996 03551 R 205325 R LAC X1
1997 03552 R 125351 E JMS* SCALUP
1998 03553 R 104275 R JMS CUT

1999 03554 R 045324 R DAC XS1*
 2000 03555 R 641002 A LACQ
 2001 03556 R 104275 R JMS CUT
 2002 03557 R 045331 R DAC YS1*
 2003 03560 R 205333 R LAC Y2
 2004 03561 R 652000 A LMQ
 2005 03562 R 205326 R LAC X2
 2006 03563 R 125351 E JMS* SCALUP
 2007 03564 R 104275 R JMS CUT
 2008 03565 R 345324 R TAD XS1
 2009 03566 R 744020 A RCR
 2010 03567 R 044236 R DAC XCROSS
 2011 03570 R 641002 A LACQ
 2012 03571 R 104275 R JMS CUT
 2013 03572 R 345331 R TAD YS1
 2014 03573 R 744020 A RCR
 2015 03574 R 044237 R DAC YCROSS
 2016 /
 2017 / NOW SET I.R.'S 15 16 17 AT LOCATIONS TO BE
 2018 / UPDATED
 2019 /
 2020 03575 R 205274 R LAC MESS
 2021 03576 R 652000 A LMQ
 2022 03577 R 205464 R LAC (MESSB / BUTTON TO RELEASE
 2023 03600 R 165274 R DZM* MESS
 2024 03601 R 125345 E JMS* MESS1
 2025 03602 R 145264 R DZM CRSFLG
 2026 03603 R 225410 R LOOP3 LAC* (17
 2027 03604 R 723776 A AAC -2 / UPDATE X IF TYPE=0
 2028 03605 R 345320 R TAD TYPE / UPDATE Y IF TYPE=1
 2029 03606 R 065407 R DAC* (16
 2030 03607 R 723003 A AAC 3
 2031 03610 R 065410 R DAC* (17
 2032 03611 R 104214 R JMS CROSS / SET UP TRACKING PATTERN
 2033 03612 R 204236 R LAC XCROSS
 2034 03613 R 045325 R DAC X1
 2035 03614 R 205320 R LAC TYPE
 2036 03615 R 740200 A SZA
 2037 03616 R 603621 R JMP .+3
 2038 03617 R 205325 R LAC X1 /NEW X
 2039 03620 R 741000 A SKP
 2040 03621 R 204237 R LAC YCROSS /NEW Y
 2041 03622 R 060016 A DAC* 16
 2042 03623 R 060017 A DAC* 17
 2043 03624 R 225410 R LAC* (17
 2044 03625 R 045271 R DAC IR17*
 2045 03626 R 445270 R ISZ FALG
 2046 03627 R 104240 R JMS KEYS
 2047 03630 R 245272 R XOR KEYVAL
 2048 03631 R 741200 A SNA
 2049 03632 R 603635 R JMP .+3
 2050 03633 R 145270 R DZM FALG

2051 03634 R 045272 R DA KEYVAL
2052
2053 // PACKIT - WRITE ROUTE INTO ROUTES ARRAY
2054 /
2055 03635 R 103761 R PACKIT JMS PACK
2056 03636 R 220001 R LAC* MSFLAG /BUG9
2057 03637 R 545370 R SAD (2 /BUG9
2058 03640 R 741000 A SKP /BUG9
2059 03641 R 603646 R JMP .+5 /BUG9
2060 03642 R 205403 R LAC (1
2061 03643 R 060001 R DAC* MSFLAG /BUG9
2062 03644 R 445270 R ISZ FALG /BUG9
2063 03645 R 603655 R JMP .+10 /BUG9
2064 03646 R 205270 R LAC FALG
2065 03647 R 740200 A SZA
2066 03650 R 603655 R JMP .+5
2067 03651 R 205272 R LAC KEYVAL
2068 03652 R 545440 R SAD (10000
2069 03653 R 600063 R JMP START /BUTTON 6
2070 03654 R 601451 R JMP MODFY+5 /ANY OTHER BUTTON
2071 03655 R 205320 R LAC TYPE
2072 03656 R 740031 A TCA
2073 03657 R 345271 R TAD IR17
2074 03660 R 723776 A AAC -2
2075 03661 R 065410 R DAC* (17
2076 03662 R 205260 R LAC CFLAG
2077 03663 R 740200 A SZA
2078 03664 R 603603 R JMP LOOP3
2079 03665 R 225311 R LAC* SCAN
2080 03666 R 505400 R AND (77777
2081 03667 R 045266 R DAC DISFAD
2082 03670 R 603603 R JMP LOOP3
2083 /
2084 /
2085 /
2086 /
2087 03671 R 445262 R CU2 ISZ CNTR
2088 03672 R 741000 A SKP
2089 03673 R 603701 R JMP RTATE /LAST SEG
2090 03674 R 205262 R LAC CNTR
2091 03675 R 344653 R TAD BUFF
2092 03676 R 723775 A AAC -3
2093 03677 R 740100 A SMA
2094 03700 R 603526 R JMP GOTIT+3
2095 03701 R 205374 R RTATE LAC (BUFF
2096 03702 R 723002 A AAC 2
2097 03703 R 065465 R DAC* (10
2098 03704 R 205466 R LAC (BUFF1
2099 03705 R 065446 R DAC* (11
2100 03706 R 204653 R LAC BUFF
2101 03707 R 744010 A RCL
2102 03710 R 344653 R TAD BUFF

2103 03711 R 723772 A AAC -6
 2104 03712 R 740031 A TCA
 2105 03713 R 045262 R DAC CNTR
 2106 03714 R 220010 A LAC* 10
 2107 03715 R 045313 R DAC SIDE1
 2108 03716 R 220010 A LAC* 10
 2109 03717 R 060011 A DAC* 11
 2110 03720 R 045324 R DAC XS1
 2111 03721 R 220010 A LAC* 10
 2112 03722 R 060011 A DAC* 11
 2113 03723 R 045331 R DAC YS1
 2114 03724 R 220010 A LAC* 10
 2115 03725 R 060011 A DAC* 11
 2116 03726 R 445262 R ISZ CNTR
 2117 03727 R 603724 R JMP -.3
 2118 03730 R 205313 R LAC SIDE1
 2119 03731 R 060011 A DAC* 11
 2120 03732 R 205324 R LAC XS1
 2121 03733 R 060011 A DAC* 11
 2122 03734 R 205331 R LAC YS1
 2123 03735 R 060011 A DAC* 11
 2124 03736 R 204653 R LAC BUFF
 2125 03737 R 744010 A RCL
 2126 03740 R 344653 R TAD BUFF
 2127 03741 R 740031 A TCA
 2128 03742 R 740030 A IAC
 2129 03743 R 045262 R DAC CNTR
 2130 03744 R 205374 R LAC (BUFF
 2131 03745 R 065410 R DAC* (17
 2132 03746 R 065446 R DAC* (11
 2133 03747 R 205466 R LAC (BUFF1
 2134 03750 R 065465 R DAC* (10
 2135 03751 R 220010 A LAC* 10
 2136 03752 R 060011 A DAC* 11
 2137 03753 R 445262 R ISZ CNTR
 2138 03754 R 603751 R JMP -.3
 2139 03755 R 204653 R LAC BUFF
 2140 03756 R 740031 A TCA
 2141 03757 R 045262 R DAC CNTR
 2142 03760 R 603500 R JMP LOOP2
 2143 03761 R 740040 A PACK XX
 2144 03762 R 204653 R LAC BUFF
 2145 03763 R 744010 A RCL
 2146 03764 R 344653 R TAD BUFF
 2147 03765 R 740031 A TCA
 2148 03766 R 045262 R DAC CNTR
 2149 03767 R 205453 R LAC (BUFF-1
 2150 03770 R 065465 R DAC* (10
 2151 03771 R 205467 R LAC (BUFF1-1
 2152 03772 R 065446 R DAC* (11
 2153 03773 R 220010 A LAC* 10 / COPY BUFFER
 2154 03774 R 060011 A DAC* 11 / ACROSS

2155 03775 R 445262 R I CNTR
2156 03776 R 603773 R JMP .-3
2157
2158 / WRITE ROUTE
2159
2160 03777 R 205260 R LAC CFLAG
2161 04000 R 740200 A SZA
2162 04001 R 604035 R JMP CU3
2163 04002 R 220012 R LAC* EOROUT
2164 04003 R 045310 R DAC RUTPTR
2165 04004 R 340011 R TAD ROUTAD
2166 04005 R 723777 A AAC -1
2167 04006 R 045254 R DAC ARG100*
2168 04007 R 750001 A CLC /STATUS BIT INVALID
2169 04010 R 125355 E JMS* WRITRT
2170 04011 R 604020 R JMP .+7
2171 04012 R 005254 R ARG1 .DSA ARG100 / ROUTES(EOROUT)
2172 04013 R 005053 R .DSA BUFF1
2173 04014 R 000000 A 0 / EOROUT
2174 04015 R 000000 A 0 / CONNEX(1)
2175 04016 R 000000 A 0 /EOCONN
2176 04017 R 005266 R .DSA DISFAD / DISPLAY FILE ADDR.
2177 04020 R 205311 R LAC SCAN
2178 04021 R 652000 A LMQ
2179 04022 R 205371 R LAC (4
2180 04023 R 125342 E JMS* DRAWCP
2181 04024 R 205270 R LAC FALG
2182 04025 R 741200 A SNA
2183 04026 R 623761 R JMP* PACK
2184 04027 R 205466 R LAC (BUFF1
2185 04030 R 044205 R DAC RTOFR+1
2186 04031 R 104175 R JMS DESTRY
2187 04032 R 225311 R LAC* SCAN
2188 04033 R 045266 R DAC DISFAD
2189 04034 R 623761 R JMP* PACK
2190 04035 R 220014 R CU3 LAC* EOCOPP
2191 04036 R 045310 R DAC RUTPTR
2192 04037 R 340013 R TAD COPPAD
2193 04040 R 723777 A AAC -1
2194 04041 R 045255 R DAC ARG400*
2195 04042 R 125355 E JMS* WRITRT
2196 04043 R 604052 R JMP .+7
2197 04044 R 005255 R ARG4 .DSA ARG400
2198 04045 R 005053 R .DSA BUFF1
2199 04046 R 000000 A 0 /EOCOPP
2200 04047 R 000000 A 0 /CONNEX(1)
2201 04050 R 005403 R .DSA (1
2202 04051 R 005266 R .DSA DISFAD
2203 04052 R 205310 R LAC RUTPTR
2204 04053 R 652000 A LMQ
2205 04054 R 205261 R LAC CFLAG2
2206 04055 R 741200 A SNA

2207 04056 R 445261 R ISZ CFLAG2
2208 04057 R 740030 A IAC
2209 04060 R 125342 E JMS* DRAWCP /DRAW OR REPLACE COPPER
2210 04061 R 205270 R LAC FALG
2211 04062 R 205270 R LAC FALG /BUG9
2212 04063 R 740200 A SZA /BUG9
2213 04064 R 604071 R JMP .+5 /BUG9
2214 04065 R 220001 R LAC* MSFLAG
2215 04066 R 545370 R SAD (2 /BUG9
2216 04067 R 741000 A SKP
2217 04070 R 623761 R JMP* PACK /BUG9
2218 04071 R 205466 R LAC (BUFF1
2219 04072 R 044107 R DAC CPEOCP+1
2220 04073 R 104075 R JMS GETCOP
2221 04074 R 623761 R JMP* PACK
2222 /
2223 /
2224 /
2225 /
2226 /
2227 04075 R 740040 A GETCOP XX
2228 04076 R 205310 R LAC RUTPTR
2229 04077 R 340013 R TAD COPPAD
2230 04100 R 723777 A AAC -1
2231 04101 R 045263 R DAC CPEOCQ#
2232 04102 R 220014 R LAC* EOCOPP
2233 04103 R 045312 R DAC SHIFT#
2234 04104 R 125347 E JMS* READRT
2235 04105 R 604115 R JMP .+10
2236 04106 R 005263 R CPEOCP .DSA CPEOCQ
2237 04107 R 004653 R .DSA BUFF
2238 04110 R 000000 A 0 /EOCOPP
2239 04111 R 005373 R .DSA (0
2240 04112 R 005310 R .DSA RUTPTR
2241 04113 R 000000 A 0 /CONNEX(1)
2242 04114 R 005403 R .DSA (1
2243 04115 R 220014 R LAC* EOCOPP
2244 04116 R 740031 A TCA
2245 04117 R 345312 R TAD SHIFT
2246 04120 R 045312 R DAC SHIFT /NO. OF WORDS REMOVED
2247 04121 R 624075 R JMP* GETCOP
2248 04122 R 340013 R COPPER TAD COPPAD
2249 04123 R 740031 A TCA
2250 04124 R 740030 A IAC
2251 04125 R 045310 R DAC RUTPTR
2252 04126 R 104075 R JMS GETCOP
2253 04127 R 205266 R LAC DISFAD
2254 04130 R 652000 A LMQ
2255 04131 R 740031 A TCA
2256 04132 R 125342 E JMS* DRAWCP /DELETE FROM DISPLAY FILE
2257 04133 R 104245 R JMS UPDATE
2258 04134 R 145270 R D2M FALG

2259 04135 R 204653 R LAC BUFF
2260 04136 R 740031 A TCA
2261 04137 R 045262 R DAC CNTR
2262 04140 R 205374 R LAC (BUFF
2263 04141 R 065410 R DAC* (17
2264 04142 R 445260 R ISZ CFLAG
2265 04143 R 603500 R JMP LOOP2
2266 04144 R 740040 A GETRUT XX
2267 04145 R 205311 R LAC SCAN
2268 04146 R 723776 A AAC -2
2269 04147 R 045311 R DAC SCAN*
2270 04150 R 744000 A CLL
2271 04151 R 225311 R LAC* SCAN
2272 04152 R 640511 A LRS 11
2273 04153 R 045267 R DAC DISNO*
2274 04154 R 744010 A RCL
2275 04155 R 345267 R TAD DISNO
2276 04156 R 744010 A RCL
2277 04157 R 340005 R TAD COMPAD
2278 04160 R 045267 R DAC DISNO
2279 04161 R 445311 R ISZ SCAN
2280 04162 R 225311 R LAC* SCAN
2281 04163 R 652000 A LMQ
2282 04164 R 445311 R ISZ SCAN
2283 04165 R 225311 R LAC* SCAN
2284 04166 R 744010 A RCL
2285 04167 R 742010 A RTL
2286 04170 R 505365 R AND (3
2287 04171 R 640614 A LLS 14
2288 04172 R 045310 R DAC R#UTPTR
2289 04173 R 104175 R JMS DESTRY
2290 04174 R 624144 R JMP* GETRUT
2291 04175 R 740040 A DESTRY XX
2292 04176 R 205310 R LAC RUTPTR
2293 04177 R 340011 R TAD ROUTAD
2294 04200 R 723777 A AAC -1
2295 04201 R 045307 R DAC RUOFRT* /ROUTES(POINTER)
2296 04202 R 125347 E JMS* READRT
2297 04203 R 604213 R JMP .+1+7
2298 04204 R 005307 R RTOFRT .DSA RUOFRT
2299 04205 R 004653 R .DSA BUFF
2300 04206 R 000000 A 0 /EOROUT
2301 04207 R 005373 R .DSA (0 /DESTRUCTIVE READ
2302 04210 R 005310 R .DSA RUTPTR
2303 04211 R 000000 A 0 /CONNEX(1)
2304 04212 R 000000 A 0 /EOCONN
2305 04213 R 624175 R JMP* DESTRY
2306 /
2307 /
2308 /
2309 /
2310 04214 R 740040 A CROSS XX

2311 04215 R 205264 R LAC CRSFLG
 2312 04216 R 740200 A SZA
 2313 04217 R 604231 R JMP INFILE
 2314 04220 R 445264 R ISZ CRSFLG
 2315 04221 R 225346 E LAC* MF.101
 2316 04222 R 044225 R DAC .+3
 2317 .WRITE 10.3.0.0
 04223 R 003010 A *G CAL+3*1000 10&777
 04224 R 000011 A *G 11
 04225 R 000000 A *G 0
 *G .DEC
 04226 R 000000 A *G -0
 2318 04227 R 204236 R LAC XCROSS
 2319 04230 R 204237 R LAC YCROSS
 2320 04231 R 125354 E INFILE JMS* TRACK
 2321 04232 R 624214 R JMP* CROSS
 2322 04233 R 004236 R .DSA XCROSS
 2323 04234 R 004237 R .DSA YCROSS
 2324 04235 R 005403 R .DSA (1
 2325 /
 2326 /
 2327 04236 R 000777 A XCROSS 777
 2328 04237 R 000777 A YCROSS 777
 2329 /
 2330 /
 2331 /
 2332 /
 2333 04240 R 740040 A KEYS XX
 2334 04241 R 750000 A CLA
 2335 04242 R 703022 A 703022
 2336 04243 R 505452 R AND (770000
 2337 04244 R 624240 R JMP* KEYS
 2338 /
 2339 /
 2340 04245 R 740040 A UPDATE XX
 2341 04246 R 225337 E LAC* DFADDR
 2342 04247 R 065465 R DAC* (10 /FIRST WORD DFILE
 2343 04250 R 045266 R DAC DISFAD
 2344 04251 R 365266 R TAD* DISFAD
 2345 04252 R 045266 R DAC DISFAD /ADDRESS OF LAST WORD DFILE
 2346 04253 R 220010 A LOOPYC LAC* 10
 2347 04254 R 565266 R SAD* DISFAD
 2348 04255 R 624245 R JMP* UPDATE
 2349 04256 R 545436 R SAD (235177 /SKP FOR COPPER
 2350 04257 R 741000 A SKP
 2351 04260 R 604253 R JMP LOOPYC
 2352 04261 R 220010 A LAC* 10
 2353 04262 R 740100 A SMA /POINTER TO COPPER
 2354 04263 R 604253 R JMP LOOPYC /NO
 2355 04264 R 345263 R TAD CPEOCQ
 2356 04265 R 740100 A SMA /ABOVE IN D.S
 2357 04266 R 604253 R JMP LOOPYC /NO

2358 04267 R 225465 R LA~~W~~ (10
2359 04270 R 045317 R DAC TEMP*
2360 04271 R 225317 R LAC* TEMP
2361 04272 R 345312 R TAD SHIFT
2362 04273 R 065317 R DAC* TEMP
2363 04274 R 604253 R JMP LOOPYC
2364 /
2365 /
2366 /
2367 04275 R 740040 A CUT XX
2368 04276 R 741100 A SPA
2369 04277 R 750000 A CLA
2370 04300 R 345470 R TAD (-1777
2371 04301 R 740100 A SMA
2372 04302 R 750000 A CLA
2373 04303 R 345422 R TAD (1777
2374 04304 R 624275 R JMP* CUT
2375 /
2376 /
2377 /
2378 /
2379 /
2380 04305 R 740040 A SWOPIT XX
2381 04306 R 125353 E JMS* SWOPSD
2382 04307 R 624305 R JMP* SWOPIT
2383 04310 R 000000 A SYDE 0
2384 /
2385 /
2386 /
2387 /
2388 /
2389 04311 R 001750 A YONE 1750
2390 04312 R 000000 A 0
2391 04313 R 202270 A .ASCII / KEY OP, 1 DRAW, 2 DELETE, 3 COPPER, 4 SIDES, 5/

04336 R 551530 A

04337 R 201006 A

04340 R 500000 A

2392 04341 R 202112 A .ASCII / DRAWALL, 6 EXIT/

04342 R 240656 A

04343 R 406311 A

04344 R 426100 A

04345 R 201544 A

04346 R 042660 A

04347 R 446513 A

04350 R 700000 A

2393 04351 R 001750 A YTHREE 1750

0

.ASCII /PLACE CROSS,HIT BUTTON,SELECT CONN/

2394 04352 R 000000 A

2395 04353 R 502310 A

04354 R 141612 A

04355 R 202072 A

04356 R 247646 A

04357 R 515311 A

04360 R 044650 A

04361 R 202052 A

04362 R 552250 A

04363 R 476345 A

04364 R 451612 A

04365 R 462130 A

04366 R 352100 A

04367 R 416371 A

04370 R 647276 A

2396 04371 R 001750 A YFOUR 1750

0

.ASCII / KEY OP, 1 CORNER, 2 FINISH, 3 ANGLE, 4 THRU, 5 WINDOW,/

2397 04372 R 000000 A

2398 04373 R 202270 A

04374 R 554500 A

04375 R 202372 A

04376 R 026100 A

04377 R 201424 A

04400 R 041636 A

04401 R 512350 A

04402 R 551130 A

04403 R 201006 A

04404 R 220214 A

04405 R 446351 A

04406 R 151620 A

04407 R 261004 A

04410 R 031500 A

04411 R 406350 A

04412 R 746212 A

04413 R 261004 A

04414 R 032100 A

04415 R 522212 A

04416 R 252530 A

04417 R 201006 A

04420 R 520256 A

04421 R 446350 A

04422 R 447656 A

04423 R 260000 A

04424 R 000000 A

.ASCII / 6 ABORT/

2399

04425 R 201006 A

04426 R 620202 A

04427 R 412372 A

04428 R 252276 A

04429 R 001750 A

YSIX 1750

0

.ASCII /SELECT, ITEM/

2400

2401

2402

04430 R 516131 A

04431 R 442606 A

04432 R 521304 A

04433 R 044650 A

04434 R 426333 A

04435 R 700000 A

04436 R 001750 A

04437 R 052236 A

04438 R 202450 A

04439 R 551650 A

04440 R 476450 A

04441 R 557400 A

04442 R 000000 A

YSEVEN 1750

0

.ASCII /HIT BUTTON, 6 TO RESTORE/

2403

2404

2405

04443 R 442232 A

04444 R 420204 A

04445 R 526512 A

04446 R 447634 A

04447 R 261544 A

04448 R 052236 A

04449 R 202450 A

04450 R 551650 A

04451 R 476450 A

04452 R 557400 A

04453 R 001750 A

04454 R 000000 A

04455 R 502310 A

04456 R 141612 A

04457 R 202072 A

04458 R 247646 A

04459 R 515311 A

04460 R 044650 A

04461 R 202052 A

04462 R 552250 A

04463 R 476345 A

04464 R 420154 A

04465 R 202511 A

04466 R 720212 A

04467 R 542232 A

04468 R 457400 A

04469 R 001750 A

04470 R 000000 A

YEIGHT 1750

0

.ASCII /PLACE CROSS,HIT BUTTON, 6 TO EXIT/

2406

2407

2408

04471 R 502310 A

04472 R 141612 A

04473 R 202072 A

04474 R 247646 A

04475 R 515311 A

04476 R 044650 A

04477 R 202052 A

04478 R 552250 A

04479 R 476345 A

04480 R 420154 A

04481 R 202511 A

04482 R 720212 A

04483 R 542232 A

04484 R 457400 A

04485 R 001750 A

04486 R 000000 A

YNINE 1750

0

.ASCII / KEY OP, 1 GLOBAL, 2, 3, 4, 5, 6 LOCAL/

2409

2410

2411

04487 R 202270 A

04488 R 554500 A

04489 R 202372 A

04490 R 026100 A

04491 R 201424 A

04492 R 043630 A

04493 R 476050 A

04506 R 146130 A
04507 R 201006 A
04510 R 226100 A
04511 R 201465 A
04512 R 420100 A
04513 R 321304 A
04514 R 020152 A
04515 R 261004 A
04516 R 033100 A
04517 R 462370 A
04520 R 340630 A
04521 R 574000 A
04522 R 000000 A

2412

04523 R 001750 A
04524 R 000000 A
04525 R 202270 A
04526 R 554500 A
04527 R 202372 A
04530 R 026100 A
04531 R 201424 A
04532 R 044634 A
04533 R 516132 A
04534 R 252100 A
04535 R 415304 A
04536 R 020144 A
04537 R 202331 A
04540 R 753212 A
04541 R 202065 A
04542 R 420100 A
04543 R 315012 A
04544 R 344610 A
04545 R 426465 A
04546 R 400000 A

2416

.ASCII / 4 SWOP SEG, 5 MOVE SEG, 6 EXIT_/_

04550 R 420246 A
04551 R 536372 A
04552 R 020246 A
04553 R 426165 A
04554 R 420100 A
04555 R 325011 A
04556 R 547654 A
04557 R 425012 A
04560 R 342616 A
04561 R 261004 A
04562 R 033100 A
04563 R 426611 A
04564 R 152276 A

2417

04565 R 001750 A
04566 R 000000 A

2418

04567 R 202470 A
04570 R 546212 A

2419

YTWEV 1750

0
.ASCII / SELECT, CONNEXION_/_

/ BUTTON 3 #1 *oooooooooooo*

YELEVN 1750

0

.ASCII / KEY OP, 1 INSERT C, 2 MOVE C, 3 SIDES_/_

04571 R 416505 A
04572 R 420206 A
04573 R 476351 A
04574 R 642660 A
04575 R 446371 A
04576 R 657400 A

2420 04577 R 001750 A YTEN 1750
2421 04600 R 000000 A 0
2422 04601 R 202211 A .ASCII / HIT BUTTONS, 2 AND 4, TO CONTINUE/_

04602 R 152100 A
04603 R 412532 A
04604 R 452236 A
04605 R 472465 A
04606 R 420144 A
04607 R 202031 A
04610 R 642100 A
04611 R 321304 A
04612 R 052236 A
04613 R 202071 A
04614 R 747250 A
04615 R 446352 A
04616 R 542676 A

2423 04617 R 001750 A MESSD 1750 /#2 *okokokokokok
2424 04620 R 000000 A 0
2425 04621 R 202270 A .ASCII / KEY OP, 1 RELEASE, 2 RELEASE, 3 RELEASE, 4,/_

04622 R 554500 A
04623 R 476405 A
04624 R 420100 A
04625 R 305012 A
04626 R 242630 A
04627 R 426032 A
04630 R 342530 A
04631 R 201006 A
04632 R 220244 A
04633 R 426310 A
04634 R 540646 A
04635 R 425304 A
04636 R 020146 A
04637 R 202450 A
04640 R 546212 A
04641 R 406470 A
04642 R 526100 A
04643 R 201505 A
04644 R 400000 A

2426 04645 R 201006 A .ASCII / 5 WINDOW, 6/_

04646 R 520256 A
04647 R 446350 A
04650 R 447656 A
04651 R 261004 A
04652 R 033276 A

2427 04653 R A BUFF .BLOCK 200
2428 05053 R A BUFF1 .BLOCK 200

2429 000000 A .END

05335 R 005335 E *E
05336 R 005336 E *E
05337 R 005337 E *E
05340 R 005340 E *E
05341 R 005341 E *E
05342 R 005342 E *E
05343 R 005343 E *E
05344 R 005344 E *E
05345 R 005345 E *E
05346 R 005346 E *E
05347 R 005347 E *E
05350 R 005350 E *E
05351 R 005351 E *E
05352 R 005352 E *E
05353 R 005353 E *E
05354 R 005354 E *E
05355 R 005355 E *E
05356 R 005356 E *E
05357 R 005357 E *E
05360 R 005360 E *E
05361 R 005361 E *E
05362 R 005362 E *E
05363 R 005363 E *E
05364 R 005364 E *E
05365 R 000003 A *L
05366 R 004311 R *L
05367 R 000006 A *L
05370 R 000002 A *L
05371 R 000004 A *L
05372 R 777767 A *L
05373 R 000000 A *L
05374 R 004653 R *L
05375 R 000005 A *L
05376 R 004351 R *L
05377 R 000777 A *L
05400 R 077777 A *L
05401 R 000007 A *L
05402 R 004475 R *L
05403 R 000001 A *L
05404 R 777077 A *L
05405 R 125340 R *L
05406 R 000077 A *L
05407 R 000016 A *L
05410 R 000017 A *L
05411 R 004371 R *L
05412 R 400000 A *L
05413 R 200000 A *L
05414 R 100000 A *L
05415 R 040000 A *L
05416 R 020000 A *L
05417 R 000037 A *L

05420 R 777001 A *L
05421 R 776000 A *L
05422 R 001777 A *L
05423 R 125336 R *L
05424 R 144000 A *L
05425 R 140000 A *L
05426 R 777770 A *L
05427 R 777766 A *L
05430 R 000020 A *L
05431 R 001757 A *L
05432 R 002020 A *L
05433 R 004431 R *L
05434 R 000014 A *L
05435 R 004441 R *L
05436 R 235177 A *L
05437 R 004455 R *L
05440 R 010000 A *L
05441 R 000764 A *L
05442 R 777777 A *L
05443 R 004523 R *L
05444 R 601451 R *L
05445 R 002423 R *L
05446 R 000011 A *L
05447 R 777776 A *L
05450 R 777775 A *L
05451 R 004617 R *L
05452 R 770000 A *L
05453 R 004652 R *L
05454 R 000013 A *L
05455 R 002262 R *L

05463 R 003000 A *L
05464 R 002433 R *L
05465 R 000010 A *L
05466 R 005053 R *L
05467 R 005052 R *L
05470 R 776001 A *L

SIZE=05515 NO ERROR LINES

ABORT	00570	366	370	454*					
ABSENCE	02222	91	1333*	1424					
ADDR	05253	470	473	479	482				
ALL	02562	1456	1462*						
ANGLE	00456	361	380*						
ANGTST	02765	1570	1577	1582	1587	1592	1596	1600	1603*
ARG1	04012	84	93	98	2171*				
ARG100	05254	2167	2171						
ARG3	01106	103	107	685*					
ARG4	04044	82	109	2197*					
ARG400	05255	2194	2197						
ARRFLG	05256	113	137	144	445	452	811		
ARROW	01221	330	544	777*	813				
BASEX	03230	1518	1533	1539	1555	1606	1612	1630	1768*
BASEXN	03234	1666	1672	1678	1696	1772*			
BASEX1	03232	1526	1544	1549	1559	1563	1770*		
BASEY	03231	1522	1568	1574	1590	1609	1620	1638	1769*
BASEYN	03235	1670	1675	1686	1704	1773*			
BASEY1	03233	1530	1579	1584	1594	1598	1771*		
BOTHN	03200	1735	1739	1743*					
BUFF	04653	146	322	328	329	367	388	408	430
		462	539	541	604	606	607	616	618
		620	1008	1178	1196	1253	1399	1403	1407
		1409	1481	1490	1869	1873	1919	1941	1946
		2091	2095	2100	2102	2124	2126	2130	2139
		2144	2146	2149	2237	2259	2262	2299	2427*
BUFF1	05053	368	436	2098	2133	2151	2172	2184	2198
		2218	2428*						
BUFF2	01155	703	706	728	733*	745			
BUFF3	01270	143	451	794	809	816	823*	835	
BUFF4	01200	752	756*	772					
BUTT	05257	136	154						
BUTTON	05335	41	124	236	875	963	1223	1227	
CALL	01147	708	709	717	718	723*	725		
CALL2	01172	254	255	648	649	747*	749	874	882
		894							
CFLAG	05260	149	219	331	385	396	433	454	529
		631	843	931	1922	1971	2076	2160	2264
CFLAG2	05261	150	1923	2205	2207				
CFLG	03412	1829	1860	1863	1884	1889*			
CNTR	05262	1945	1965	2087	2090	2105	2116	2129	2137
		2141	2148	2155	2261				
COMMON	03163	1651	1730*						
COMPAD	00005	68*	102	199	2277				
COMPT	02226	1261	1337*	1434	1847				
CONNAD	00006	69*	81	202	994	1235			
CONPT	02221	89	996	1192	1198	1237	1248	1255	1258
		1270	1332*	1388	1422	1426	1427	1431	1440
		1444	1445	1447	1448	1457	1465	1844	1852
COPPAD	00013	74*	884	2192	2229	2248			
COPPER	04122	1934	2248*						
COPYDN	02620	1496*	1506						
COPYIT	01771	1116	1168*						

COPYLP	02011	1186*	1189						
CORNER	00441	357	367*						
CPEOCP	04106	83	110	147	1920	2219	2236*		
CPEOCQ	05263	2231	2236	2355					
CROSS	04214	174	258	575	922	2032	2310*	2321	
CROSSS	02264	1145	1184	1190	1368*				
CROSS1	00751	347	572*	623					
CRSFLG	05264	145	548	2025	2311	2314			
CSCAN	05265	205	206	210	212	214	216	249	252
CTST	03405	1880	1884*						
CU	01410	158	915*						
CUT	04275	1956	1961	1998	2001	2007	2012	2367*	2374
CU1	01377	893	903*						
CU2	03671	1973	2087*						
CU3	04035	2162	2190*						
DELCR	00557	435	439	445*	459				
DELETE	01305	128	843*						
DELX	03222	1607	1622	1640	1673	1688	1706	1762*	
DELY	03223	1610	1614	1632	1676	1680	1698	1763*	
DESTRY	04175	534	1401	2186	2289	2291*	2305		
DFAD	05336	42	647	707	812				
DFADDR	05337	43	2341						
DFDEL	05340	42	139	253	447	716	873		
DFLPK	05341	41	181	849	997	1926			
DISPAD	05266	186	187	208	536	632	854	855	858
		863	897	903	905	907	909	910	1931
		1932	2081	2176	2188	2202	2253	2343	2344
		2345	2347						
DISNO	05267	200	201	457	900	2273	2275	2278	
DISPAD	02225	1194	1257	1336*	1383	1390	1459	1485	
DISWID	01047	230	637	644*	650				
DIV2	00727	469	478	494	504	512	522	550*	567
DRAW	00141	162*							
DRAWAL	02051	156	1218*						
DRAWCP	05342	41	444	458	525	865	901	1201	1326
		2180	2209	2256					
DRAW1	00112	131	136*						
DRAW2	02075	1238*	1247						
DRAW4	02214	1231	1324*						
DRAW5	00113	117	137*	1930					
DROR	02000	1141	1164	1166	1177*	1202			
DRWCON	02076	1233	1245*	1251	1323				
DSUBS	03277	1624	1642	1690	1708	1807*	1824		
EGGTES	03320	1096	1825*	1887	1888				
ENBUF	02422	1014	1181	1371*	1408	1491	1495		
END	00532	407	417	424*					
ENDPT	02204	1234	1309	1316*					
ENDTST	03363	1851	1864*						
ENTRY	00365	321*	940						
EOCONN	00007	70*	90	92					
EOCOPP	00014	75*	108	2190	2232	2243			
EOROUT	00012	73*	97	1136	1472	2163			
ERROR	01120	404	700*						

EX1	00105	126	132*	967						
FALG	05270	170	171	431	461	537	938	939	1937	2258
		2045	2050	2062	2064	2181	2210	2211		
FINANG	03060	1652	1658	1663*						
FINCON	00174	189*	221	633	899					
FINCOP	02633	1500	1507*							
FIND	00213	204*	211							
FINISH	00476	359	396*							
FIRSTP	03376	1877*								
GETCON	02453	1002	1382*	1394						
GETCOP	04075	440	532	888	2220	2227*	2247	2252		
GETDF	02461	1386	1388*							
GETRUT	04144	881	1939	2266*	2290					
GETWID	01035	629*	638	857						
GILL	00553	441*	456							
GOTIT	03523	1963	1971*	2094						
GOTITT	01652	1057	1070	1080	1088*					
GOTRT	02466	1391	1393*							
GTRUT	02470	1393	1398*	1417						
IGRID	05343	43								
IND	02223	1334*								
INFILE	04231	2313	2320*							
INSFLG	02421	1370*								
IR17	05271	464	542	574	621	2044	2073			
IWIDTH	05344	43	228	242						
JTHSEG	02234	1012	1018	1030	1344*	1830				
KEYLP	02043	1212*	1216							
KEYS	04240	172	175	256	348	710	915	923	1924	
KEYVAL	05272	2046	2333*	2337						
		173	176	179	180	257	349	353	354	
		711	714	715	916	924	929	930	1124	
		1153	1157	1158	1211	1214	1925	2047	2051	
		2067								
KOMPT	03435	1894	1904	1908*						
KROZ	03215	1716	1724	1729	1748	1752	1756*			
LASTPT	03402	1872	1876	1881*						
LIBAD	00010	71*	105							
LOCSUB	03414	1260	1272	1846	1854	1891*	1893	1906	1907	
LONG1	05273	295	301	302	308	309	315	589	595	
LOOPM	01716	1125*	1155							
LOOPYC	04253	2346*	2351	2354	2357	2363				
LOOP1	00410	333	336	342*	379	384	387	395	549	
		719								
LOOP2	03500	1949*	1966	2142	2265					
LOOP3	03603	2026*	2078	2082						
MANRUT	00002	1	38	65*	133	1327				
MANUAL	01472	972*								
MESS	05274	119	122	162	163	231	234	342	343	
		844	847	868	871	917	920	957	958	
		959	984	985	1117	1118	1203	1205	1218	
		1219	1913	1916	2020	2023				
MESSA	02423	987	1372*	1915						
MESSB	02433	1375*	2022							

MESSC	02445	1207	1378*						
MESSD	04617	1120	2423*						
MESS1	05345	42	123	166	235	346	848	872	921
		962	988	1121	1208	1222	1917	2024	
MFLAG	05275	79	526	1163					
MF.101	05346	41	2315						
MINSRT	01616	1027	1060*						
MINUS	03275	1780	1782	1786	1793	1805*			
MLOOP	01706	1105	1111	1117*					
MOCONN	02101	1246	1248*						
MODFY	01444	153	528	950*	976	1001	1167	2070	
MODIFY	03436	965	1913*						
MSFLAG	00001	47*	47	114	955	1918	2056	2061	2214
MULT	03236	1615	1623	1633	1641	1681	1689	1699	1707
		1774*	1794	1804					
MVDEL	01673	1091	1106*						
N	00016	77*	115	151					
NAWLUS	03334	1836	1839*						
NCONN	02220	1245	1331*	1385	1430				
NCROSS	02251	1357*							
NEXT	03517	1959	1964*						
NOCHEK	00274	229	238	256*					
NOD	05276	261	276	690	1897	1905			
NOINS	01540	1007	1012*						
NOKER	03217	1553	1566	1588	1601	1662	1715	1723	1728
		1738	1742	1751	1755	1758*			
NOPE	03411	1862	1867	1879	1883	1888*			
NOPTH	02164	1282	1284	1295	1300*				
NOTHIS	01643	1032	1052	1056	1081*				
NOTPS1	02705	1537	1554*						
NOTPS3	02750	1572	1589*						
NPTS	02246	1252	1285	1300	1307	1354*	1404	1406	1834
NWORDS	05277	1183	1188						
NXTCOM	02455	1384*	1387						
NXTCON	02456	1385*	1392						
NXTSEG	01541	1013*	1087						
N1	05300	971	978	983	1005	1025	1089	1109	
OFF	02263	1367*							
OK	00507	398	401	405*					
OLCROS	02254	1360*							
OLVAL	05301	1402	1477						
ONEFLG	05302	975	1454						
OTHCOM	02227	1273	1338*	1443	1855				
OTHNOD	03347	1852*	1886						
OTHSD	02253	1086	1113	1359*					
OUT	01767	1011	1103	1162	1166*	1174	1217		
PACK	03761	432	465	538	617	2055	2143*	2183	2189
		2217	2221						
PACKIT	03635	1943	1967	1986	2055*				
POZZ	03256	1785	1790*						
PPTR	05303	682	689						
PTER	03413	1890*	1892	1895					
PTR1	05304	218	262						

PTR2	05305	195	197	278					
PT1	02634	1492	1496	1498	1502	1508*			
PT2	02635	1494	1497	1503	1505	1509*			
PUSBUT	00000	46*	46	118	956				
PUTBAK	01614	1015	1058*						
PUTIN	01671	1094	1104*						
QUOT	03260	1778	1792*						
RARG1	01741	1144*							
RARG10	05306	1140	1144						
RARG3	01743	100	1146*						
RARG6	01746	86	1149*						
RARG7	01747	95	1150*						
READRT	05347	41	1142	2234	2296				
REDROR	00675	516	519	524*					
RELES	01713	1122*							
REMSID	02235	1345*							
REPLAC	01363	877	891*						
RESTT	01513	989*	1059						
ROUTAD	00011	72*	78	80	1138	1471	2165	2293	
RRITE	02570	1058	1195	1322	1470*	1486			
RS2	703022	1122	1151	1209	1212	1909*			
RTATE	03701	2089	2095*						
RTOFRT	04204	85	94	99	148	1400	1921	2185	2298*
RTPTDF	02533	1249	1389	1439*	1464	1467			
RUETED	02565	1461	1465*						
RUOFR	05307	2295	2298						
RUTGAP	02611	1104	1489*	1507					
RUTPTR	05310	441	887	1137	1148	1453	1462	2164	2191
		2203	2228	2240	2251	2288	2292	2302	
SAMX1	03175	1732	1740*						
SAMX2	03212	1745	1753*						
SARG1	03427	104	1902*						
SARG2	03430	106	1903*						
SCALE	05350	41	557						
SCALUP	05351	42	781	1955	1997	2006			
SCAN	05311	191	193	225	245	248	259	273	274
		277	535	634	859	878	891	895	898
		908	1938	2079	2177	2187	2267	2269	2271
		2279	2280	2282	2283				
SEARCH	03453	1926*							
SHIFT	05312	2233	2245	2246	2361				
SIDE	02247	1017	1085	1098	1112	1355*			
SIDE1	05313	270	334	392	669	672	1265	1280	1296
		1310	2107	2118					
SIDE2	05314	286	399	671	674	1277	1283	1299	1316
SIGN	05315	551	555	562					
SOID	02224	1335*							
SPTER	02250	1020	1102	1106	1108	1130	1168	1356*	1499
START	00063	114*	185	453	853	883	890	902	911
		928	946	1226	1230	1425	2069		
START1	00017	67	78*						
STATUS	05316	352	355	1156	1159				
STOFLG	02252	972	981	1092	1358*				

SUBCON	02514	977	1232	1238	1384	1428*	1435
SUBNOD	05352	42	683	1898			
SUMNZ	03054	1656	1659*				
SUMNZ2	03156	1720	1725*				
SUM1	03224	1616	1625	1634	1648	1653	1660
		1700	1717	1726	1764*	1810	1811
SUM2	03225	1618	1627	1636	1649	1654	1684
		1718	1765*	1819	1820		1693
SWOP	01442	130	945*	969			
SWOPIT	04305	339	394	945	2380*	2382	
SWOPS	02160	1279	1296*				
SWOPSD	05353	42	2381				
SWOP1	01056	317	656*	675			
SYDE	04310	112	337	402	411	418	424
TAG	01011	582	601	604*			
TEMP	05317	2359	2360	2362			
THRU	00463	363	385*				
THTSAL	00540	430*					
TOP	03276	1795	1800	1806*			
TOTNZ	03046	1646	1653*				
TOTNZ2	03146	1712	1717*				
TOT1	03226	1626	1643	1659	1692	1709	1725
TOT2	03227	1628	1644	1694	1710	1767*	
TRACK	05354	43	950	989	1125	2320	
TYPE	05320	321	374	380	383	405	580
		1974	1990	2028	2035	2071	583
							600
UGH	02032	1097	1115	1203*			
UPDATE	04245	889	2257	2340*	2348		
VALID	05321	974	1088	1204	1475		
VERT	03543	1981	1987*				
WARG1	02602	1191	1197	1480*			
WARG10	05322	1474	1480				
WARG3	02604	101	1482*				
WARG4	02605	87	1483*				
WARG5	02606	96	1484*				
WIDSTO	01214	646	768*				
WINDOW	00576	365	461*	1165			
WRITRT	05355	41	1478	2169	2195		
XA	02244	1022	1081	1127	1132	1170	1289
		1538	1548	1554	1562	1629	1671
XCROSS	04236	168	290	303	466	467	546
		701	932	2010	2033	2318	2322
XINC	05323	685	693				
XL1	02261	1365*					
XN	02240	1036	1082	1348*	1412	1532	1543
		1663	1743				
XNR	02242	1350*	1413				
XOVER	02636	1068	1078	1513*	1757	1759	
XP	02257	991	1033	1060	1071	1266	1286
		1870	1900				1318
XOPEN	05356	42	1957				
XP1	02255	1040	1053	1267	1287	1303	1361*
XSEG	00524	410	418*				

XS1	05324	1999	2008	2110	2120				
XU	05357	41	474	475	488	493	505		
XX	02230	65	189	550	572	629	644	656	681
		723	724	747	748	777	1064	1072	1177
		1339*	1382	1398	1420	1439	1470	1489	1513
		1515	1677	1733	1746	1774	1807	1825	1891
		2143	2227	2266	2291	2310	2333	2340	2367
		2380							
XX1	02232	1062	1073	1341*	1523	1605	1695	1731	1744
XY	01102	263	279	681*	694				
XZ	02236	1346*							
X0	05360	41	471	472	497	499	502		
X1	05325	264	292	324	376	413	584	602	657
		660	933	1950	1954	1980	1996	2034	2038
X2	05326	280	305	420	426	659	662	780	934
		1979	2005						
X3	05327	375	577	586	603	612			
YA	02245	1024	1083	1128	1134	1172	1293	1314	1353*
		1573	1583	1589	1597	1637	1674	1736	1740
YCROSS	04237	169	296	310	476	547	578	704	935
		2015	2040	2319	2323	2328*			
YEIGHT	04455	919	2406*						
YELEVN	04523	961	2413*						
YFOUR	04371	345	2396*						
YINC	05330	686	691						
YL1	02262	1366*							
YN	02241	1044	1084	1349*	1415	1567	1578	1593	1619
		1667	1749	1753					
YNINE	04475	233	2409*						
YNR	02243	1351*	1416						
YONE	04311	121	2389*						
YP	02260	992	1041	1065	1075	1268	1290	1320	1364*
		1874	1901						
YPEN	05361	42	1962						
YP1	02256	1048	1049	1269	1291	1305	1362*		
YSEVEN	04441	870	2403*						
YSIX	04431	846	2400*						
YS1	05331	2002	2013	2113	2122				
YTEN	04577	1221	2420*						
YTEST	02722	1535	1542	1547	1552	1557	1561	1565	1567*
YTHREE	04351	165	2393*						
YTWELV	04565	2417*							
YU	05362	41	483	484	506	511	523		
YUP	03410	1841	1859	1887*					
YY	02231	1066	1077	1340*	1519	1685	1737	1750	
YY1	02233	1067	1074	1342*	1527	1608	1703	1741	1754
YZ	02237	1347*							
Y0	05363	41	480	481	515	517	520		
Y1	05332	266	298	326	378	422	590	598	663
		666	936	1952	1984	1994			
Y2	05333	282	312	415	428	665	668	778	937
		1983	1988	2003					
Y3	05334	377	579	592	599	614			

ZFLG 03221 1603 1647 1657 [REDACTED] 172 [REDACTED] 1761* 1828 1832
1837 1838 1839 [REDACTED] 64 1877 1881
ZWOP 01505 980 983*
ZYDE 00015 76* 111
.DA 05364 42 66

MANRUT

MOD #1 BUTTON 3 IN ROUTINE MOD RT CHANGED
751006/11B TO SIDES. THIS MOD ALLOWS THE OPERATOR
TO SWOP SIDES WITHOUT CHANGING MAIN
ROUTINE AND PREVENTS SECURITY DUMPS.